MARCH, MDCCCLXI.

THE ZOOLOGIST:

A

POPULAR MONTHLY MAGAZINE

OF

NATURAL HISTORY,

AND

JOURNAL FOR RECORDING FACTS AND ANECDOTES

RELATING TO

QUADRUPEDS, BIRDS, REPTILES, FISHES, ANNELIDES,
INSECTS, WORMS, ZOOPHYTES, &c.

THEIR HABITS, FOOD, RETREATS, OCCASIONAL APPEARANCE,
MIGRATIONS, NESTS AND YOUNG.

No. CCXXVI.

LONDON:
JOHN VAN VOORST, PATERNOSTER ROW.

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By EDWARD NEWMAN, F.L.S., F.Z.S.

LATE PRESIDENT OF THE ENTOMOLOGICAL SOCIETY.

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LONDON: JOHN VAN VOORST, 1, PATERNOSTER ROW.

Postscript to 'Notes on the Fauna of Shetland.'—In reference to my paper on the ına of Shetland (Zool. 7337), permit me to observe that I was quite ignorant of fact that a similar list had already appeared in the pages of the 'Zoologist.' Edmonston, my kind host, and the father of the late Mr. T. Edmonston, besides ch valuable oral information, allowed me to make use of some printed papers of own on the Ornithology of Shetland, and which I imagined to be the only ones in stence: I cannot help adding, however, that my paper was in the hands of the tor for three months, during which time I might easily have received notice of omission. A few errata should be noticed: p. 7338, line 13 from top, for "young hat are called sillocks" read "young of the coal-fish, which are called sillocks;" 343, the local name for Uria grylle is "tystie," not "tyrtie;" p. 7345, for the my petrel the name is "spency." I observe that Mr. Doubleday doubted the urrence of Totanus hypoleucos in Shetland in *winter*. I cannot, it is true, prove statement; but as undoubtedly many birds come both from the North of Scotland well as from Iceland to winter in Shetland, on account of its high winter temature, I think it very possible that the summer snipe may thus remain, or be laced by others from colder latitudes.—*W. D. Crotch; Uphill House, Weston-r-Mare, February* 4, 1861.

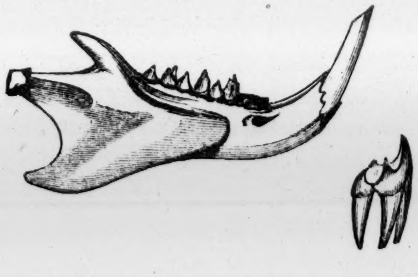
[Mr. Crotch was absent on the Continent during the interval, and two or three ers which I had occasion to write to him remained unanswered on this account. e publication of his paper was deferred some weeks, in the hope that I should be e to refer him to Mr. T. Edmonston's paper on the same subject.—*E. Newman.*]

Halichærus "At Home."—If you have never seen seals in the privacy of domestic , living unmolested in their island home, I would recommend you to visit Todomosiri, he Gulf of Tartary. As, however, that little spot is a very long way off, I will endear to give you some idea of one of those wild scenes in wild out-of-the-way places where alers put in for water, and take the same opportunity of knocking on the head a few ndred seals to complete their cargo. The small barren islet called Monneron by Perouse, and Todomosiri or Seal Island by the Japanese, is situated on the north e of the west entrance to La Perouse Strait. It is a huge mass of bare trachyte, a ep weather-stained rock rising 1500 feet abruptly from the sea, and with some ached rocks on its eastern side. A great brown gull, greedy for fish-bones and l, hovers round the base; a lonely cormorant, with outstretched neck, is drying her anded wings on the salient angle of a black crag, and a little hawk is soaring h above the summit. These are the only birds; oysters, mussels and limpets are only mollusks; a carrion-beetle, a large black Silpha, is the only insect met with. e other inhabitants are seals. Many of these are swimming and diving around the nd, as is shown by uncouth red-brown heads showing now and then above the sure of the water; others are basking in the sun, motionless on the broad smooth s, the remnants of their fish-dinners strewn about them. The bones of some ch have died from old age or wounds are bleaching in the wind, and the carcases thers are seen decomposed, and torn by gulls and cormorants. The dirt, stench strange company, with the wild great rocks towering all around, produce an ression certainly novel, but not altogether agreeable. We are anchored pretty close er the lee of the island, and directly opposite the ship is a little white shingly cove, with patches of long coarse reedy grass in the background. This is a favourite resort of the seals, and here their manners and customs may be always studied. The old gray bulls rear the fore part of their bodies and slowly sway themselves from side to side, meanwhile throwing up their great heads and bellowing continuously. The cows and their calves are congregated together in a coterie by themselves, and on the outlying rocks repose, in attitudes anything but graceful, an entire seraglio of young females. The noise of the seals in the night is something fearful: it is like the croaking of Brobdignag bull-frogs, varied at intervals by deep growls and sharp cries, low-muttered curses, snortings, dissonant brayings, and other sounds even more unearthly still. Three individuals fall victims to the prowess of our sportsmen, and are towed on board in triumph. From the simple pointed molar teeth of the upper jaw, and by other characters, I make them out to be a species of Halichœrus, very possibly H. barbatus.—*Arthur Adams.*

Cat taking the Water.—A man in my employment, who lived in an adjacent cottage, had a fine tortoiseshell cat, which was not only an excellent mouser, but was also extremely fond of the flesh of water-rats and moorhens. In pursuit of these she was frequently observed to plunge into the water, and seldom failed to bring out a prize.—*Jonathan Grubb.*

Hedgehogs.—We have hedgehogs constantly in our garden; and during the late wet summer (1860) I observed that they had been very busy at night on the lawn rooting, so as quite to disfigure it; but I could not perceive that it was the plantain roots that attracted them, as mentioned by Gilbert White. I rather thought, from the appearance of the holes, that worms were the object of their search. I have frequently pursued them in the dusk on a summer's evening, and found that so long as I kept at a moderate distance they continued to run pretty fast, but as soon as I got up to them they immediately sought safety by rolling themselves up and concealing all the tender parts within their prickly armour. It was pleasing then to watch at a little distance the cautious manner in which they unrolled themselves and made off to the nearest cover.—*Id.*

Note on Spermophilus erythrogenoides, Falconer, *a new Species of Marmot.*—I have much pleasure in presenting a sketch of the right ramus of the lower jaw of this new species of marmot. I have made the sketch from the jaw now in the Museum at Taunton. It has been to London, and compared by perhaps the greatest authority for cave-animal remains, Dr. Falconer. This gentleman informed me that he considered it then to be the jaw of Spermophilus citellus; but he afterwards found it to be not that species, but an entirely new one, to which he has given the above name. The specimen, which was bought by the Somerset Archæological and Natural-History Society, was in the late Mr. Williams's collection of Devonian fossils and cave-animal remains. The latter are from the Mendip caverns, and among them are some very fine specimens; one, a head of Hyæna spelæa, Dr. Falconer told me is the finest in Europe. These marmots, or ground-squirrels as they are called, were probably as plentiful in our limestone hills ages ago as they are now, scattered over the Old and New World. This animal, to



which the jaw belonged, although not precisely like S. citellus of the Altai mountains, to which it was first attributed, was no doubt the equivalent of that species inhabiting this intermediate space between the Old and New World; and it is my opinion that the climate of this country has not undergone any material change since these limestone hills of ours possessed those little creatures alive and in full activity. These may have existed, and probably did exist, even up to the time when man took possession of this island, and indeed may have been exterminated by him. As the other species of this family are used as food, these in all probability were used as food also. And if we picture the Altaio at the present time with what our Mendips and other ranges of limestone hills once were, we shall see a very great resemblance, both in its fauna and the crops which they both sustained around them. At the town of Fykalka, situated on the southern slope, at the height of 4000 feet above the sea, the land is cultivated with success, yielding barley, rye, oats, millet and summer wheat, besides garden vegetables. The little marmot, which inhabits these regions near the snow line, is preyed upon by the glutton: the bear, the wild sheep (*Ovis argali*), Cervus Elaphus, C. Alces, &c., climb about the craggy heights, while below roam the tiger, &c. Now, if we build up the bony structures which are found in these caverns of our hills, and clothe them with flesh and give them life,—the lions, hyænas, wolves, sheep and deer,—with Elephas primigenius and E. antiquus feeding on the young green boughs of the willows and birch, with perhaps Bos longifrons and B. Urus roaming in the boggy ground in the distance, and Urocerus hibernicus and Strogylocerus spelæus bounding across the plain, I think the picture of our Altai, the Mendips, may be compared to that of the Altai proper of the present time. What can have caused the death of so many animals in this country, both carnivorous and granivorous, when similar ones are living as it were in a similar condition to those which existed some years ago, is a problem I am not prepared to answer. They must have gradually died out from or through some, to us, unknown cause. I say gradually; and it must have been so, from the circumstance of the bones being found as it were in layers, or rather mixed with mould and dirt, in some places to eight or ten feet thick, just as the deer, &c., were hauled in to be devoured by bear or hyæna, which ever occupied the den; so that it is quite evident they were not destroyed by any sudden catastrophe, but that they gradually became extinct. A casual observer of these caverns would be led perhaps to other conclusions by their water-worn appearance inside,—an appearance which I cannot satisfactorily account for. The outside presents no particular worn appearance, but has the sharp angles familiar to every one who visits these hills.—*Edward Parfitt*; *Exeter*, *January* 31, 1861.

Occurrence of the Harvest Mouse (Mus messorius) *in Banffshire.* — Although the harvest mouse has long been considered an inhabitant of Banffshire, yet the fact, so far as I am aware, could never be satisfactorily established. Mr. Wallas Gardiner, of Greenskairs, parish of Gamrie, having occasionally seen on his property what appeared to him a curious and very small mouse, mentioned the fact to an acquaintance, who expressed a wish to see a specimen. Shortly afterwards two of the said mice were sent here for inspection, and proved to be the veritable Mus messorius of White, the very species which I had been so long and so anxiously in search of. Need I say with what delight my poor old eyes fell for the first time on these little gems of the quadruped world, or how long I looked at them, how often I turned and re-turned them, and with what tender care I stroked them? I may, however, mention that one of them—and they both seemed about the same—which I measured, and which is now preserved in the Banff Museum, is scarcely four inches in length, tail and all; and its weight is only one-eighth of an ounce and thirteen grains! Well might the esteemed author of the 'Natural History of Selborne' say, "I suppose they are the smallest quadruped in this island," and he might have added "or perhaps on any other." Far be it from me to say aught against any mouse, or indeed against any animal whatever; but I cannot help thinking that these little creatures are the most elegant and pretty of their kind I have ever seen. From what I had read about the harvest mouse I was led to believe that it was of a reddish brown; but this I find not to be the case, at least with these, which are both adults: they are rather of a delicate glossy bay, except the belly, which is pure white.—*Thomas Edward; Banff, December* 8, 1860.

Nesting of the Griffon Vulture (Vultur fulvus) *in Eastern Algeria.*—A French "colon," who, when occasionally sober, plied the trades of carpenter and "chasseur," had offered to take us to some accessible griffons' nests. The rain was descending in torrents when we set out with our guide, and so dense were the clouds that it was impossible to detect even a griffon at two hundred yards. However, after some scrambling in the forest, we approached the edge of a long range of cliffs, from whose fissures and ledges many a mountain shrub and tree stretched forth and partially covered the nakedness of the rocks: carefully peering over the top, we soon espied, at a distance of some fifty feet below us, the cumbrous heap of sticks which generally serves the vulture for a nest; but were dismayed to see instead of an egg an unfledged downy squab. Had we come too late for nesting? It was an ominous disappointment to commence with. However, "Il y a de plus encore," cries our Frenchman, and we soon made out a second nest a little lower down the cliff. Alarmed by the falling of a stone, the parent bird deliberately rises, slowly stretches her wings, and, with two or three majestic wavings of her pinions, leaves a single egg disclosed to view. Having discovered a narrow ledge by which the nest may be reached, Simpson boldly descends, and reverentially handles the first griffon's egg he had ever seen *in situ.* But, calling out to us that he will wait till the complement has been laid, he clambers up to the top again. He has scarcely arrived there when the mother returns, and, quietly sailing in, lets herself drop on the edge of the nest. Here she pauses for a minute or two, grotesquely turns her neck and squints at her beloved egg, first with one eye, then with the other. Next she sniffs at it, turns it over and over, and with fond admiration, taking another look, seats herself down on it. It must be hard set, we remark, and Simpson, resigning hopes of any additional booty, determines to descend again and secure his prize. He had almost reached the nest before the parent bird would quit it: the egg proved to have been incubated for some time, and was the best-marked griffon's we obtained.—*H. B. Tristram, in the 'Ibis,'* ii. 362.

Occurrence of the Spotted Eagle (Falco nævius) *at Lundy Island.*—My friend Mr. Heaven, of Lundy, some three years since shot a specimen of the spotted eagle on the island; so that Mr. Rodd's bird is not the first which has occurred in the West of England.—*Murray A. Mathews; Raleigh, Barnstaple, February* 1, 1861.

Occurrence of the American Whiteheaded Eagle (Falco leucocephalus) *in Somersetshire?*—The following notice of the appearance, in Somersetshire, of the whiteheaded eagle may be interesting to some of the readers of the 'Zoologist.' It is extracted from a letter just received from my son: — "Yesterday a curious ornithological event happened here. I was going to shut the rabbit-house door, when all the fowls came half flying down the yard, and hurried into the house. I guessed there might be a hawk, and, seeing the sheep also run under cover, I looked up, and there, not very high, but near enough for me to hear the flap of his great brown wings, was a whiteheaded sea eagle. Perhaps he was hungry, and had not met with his feeder the fish-hawk, and so was forced to come inland. He hovered awhile over our farm, and then turned his white head, and with one great flap of his wings went off over Bleadon Hill, and disappeared in the red sunset. I suppose he went to the Bristol Channel to fish for himself."—*Theodore Compton; Winscombe, Weston-super-Mare, January* 25, 1861.

Occurrence of the Whitetailed Eagle (Falco albicilla) *at Weston-super-Mare.*—A very fine young specimen of the whitetailed or sea eagle was shot here last week. Can this be the bird seen by Mr. Compton?—*W. D. Crotch; Uphill House, Weston-super-Mare, February* 4, 1861.

[I am always reluctant to throw the slightest discredit on statements made in good faith, and evidently without intention to mislead: but it does seem to me that the American eagle cannot be admitted into the avi-fauna of Britain on such unsatisfactory ground; and I feel quite disposed to admit Mr. Crotch's solution of the difficulty. —*Edward Newman.*]

A Domesticated Golden Eagle.—In my neighbourhood an half-pay surgeon of the navy had a golden eagle for three or four years in his farmyard, where it was an object of great attraction to visitors. It used to fly all over the country, and was sometimes absent for a couple of days at a time. At last it was shot by a farmer, from whose premises it was carrying off a hen. It never did any damage at home, where it was always well fed; nor did I ever hear of its attacking any person, although it occasionally used to show its displeasure, when disturbed by visitors, by screaming and shaking its feathers. Its favourite perch was on the farmyard wall, overlooking a public road, or on the top of an old chimney. For the last year of its life its habits had become much more rapacious, and there were many complaints of its marauding; but its owner was the dispensing doctor of the district, and people did not like to vex him by destroying the bird; indeed, the man who did shoot it was quite unhappy when he found that it was a tame bird.—*Donegal, in the 'Field' newspaper.*

Occurrence of the Common Buzzard (Falco buteo) *near Lynn.* — A fine male specimen of this bird was sent to me for preservation; it was shot at Sandringham, near Lynn, by the Hon. Spencer Cowper, in November, 1860.—*William Wilson; Museum, King's Lynn, January* 16, 1861.

Occurrence of a pied Blackbird near Lynn. — A fine male specimen of the blackbird, beautifully pied with white, was shot at West Winch, near Lynn, in December, 1860.—*Id.*

Immense Migration of Larks; Migration of Starlings. — I was staying on Lundy Island, this last Christmas, for woodcock shooting, and while there witnessed an extraordinary migration of skylarks. After the frost and snow had continued for upwards of a week, the skylarks from the mainland commenced migrating in almost a continual stream to the island, their instinct doubtless teaching them that on the island, surrounded by salt water, the frost would not be so severe. I was one afternoon on the highest point in the island, and saw these "frozen-out" skylarks arriving flock after flock. In a very short time the island was covered with them. To give some idea of their numbers I may mention that we could not fire at a snipe or woodcock as it rose without unintentionally killing three or four larks by the same shot. Although there was plenty of food for the larks upon the island, yet we found great quantities lying about dead from starvation: these were birds which had evidently delayed their migration until so weakened by hunger that the exertion of their long flight had proved fatal to them. Directly the milder weather came we found the larks had left the island, and had returned to their usual haunts on the mainland. We had a large migration of starlings in the severe weather, but these birds were not nearly in such numbers as the larks.—*Murray A. Mathew; Raleigh, Barnstaple, February* 1, 1861.

Robin Fascinated by a Snake.—Having noticed (Zool. 7273) an account of a bird being fascinated by a snake, it brought to my recollection a similar incident which came under my own observation. When proceeding down the avenue here one morning, at a turn in the walk I saw a robin which appeared to me spell-bound, so much so as to allow a much closer approach than is usual even with that boldest of the feathered tribe. On going nearer I perceived what I took to be the cause in a large common snake, which was lying coiled up on one side of the path, with its head a little raised. My appearance broke the spell, and the robin flew away; at the same time the snake dropped its head, and assumed a perfectly inert appearance. After passing it I recollected that children were playing at the further end of the avenue, and thinking the snake might alarm them I returned to the house to get a stick with which to despatch it, and though I was only gone about a minute it had managed to disappear amongst the bushes which lined the walk, for I could see nothing of it on my return.—*John Henry Belfrage; Muswell Hill, February* 12, 1861.

Migration of Swallows.—I am informed by a resident at Malta that the last swallows were seen on the 3rd of December, two days later than they were observed in the Isle of Wight, as recorded in my note of the 3rd of that month (Zool. 7315).—*Henry Hadfield; Ventnor, Isle of Wight, January* 16, 1861.

Late Stay of Swallows and Martins in the Isle of Wight.—Has it been noticed in previous years that swallows and martins remain in the Isle of Wight much beyond the average period of their departure from our coasts, or is this year an exceptional one? I observed them at Ventnor and its immediate neighbourhood every day up to and inclusive of the 5th of this month. They appeared to be as lively and as much at home as in the middle of summer. Martins appeared to be in greatest force at Blackgang Chine on the 2nd of November: they were disporting themselves about the cliffs in large numbers. I saw but one or two swallows on that day, but in the town of Ventnor on the 3rd and 4th I saw several of the latter, and on the morning of the 5th, just before I left, the wind at the time being east and bitterly cold, I saw five. At Newport, in the centre of the island, on the same day two martins were flying about the streets: they appeared to be young ones, and were very weakly. Can it be that there is, after all, some truth in the hybernating theory, and that the nooks and crevices of the rocks and cliffs, at a point of our coast so far south as Ventnor, afford them a winter shelter? Is it not reasonable to suppose a swallow may become torpid, and sleep away the cold months, as we know the dormouse does?—*William Gostling; 5, Wykeham Villas, Wandsworth Common, November* 16, 1860.

Singular Instance of Sagacity in Birds.—At a time when there was some housebreaking in this neighbourhood I placed for protection an alarm-bell under the eaves of my house, with a rope through the wall into my own room. The cord was about the size of a common linen line, and passed over a pulley outside, going first downwards and then upwards, with the needful pulleys till it reached the bell, which hangs a little above the hole in the wall, and on one side of it. A pair of house martins at once selected the pulley over which the rope first passes for the foundation of their nest; and although at this time the bell was almost constantly used as a signal for the hours of meals, they persevered, apparently quite fearless of the noise, or of the motion either of it or of the cord, which passed over the pulley and under or through the bottom of the nest. It was very interesting to watch these amusing birds diligently pursuing their conjugal duties and preparing for their future progeny in such a situation, and mortifying to see them, before long, expelled by a pair of common sparrows, who soon filled the nest with hay and feathers, and, usurpers as they were, proceeded to perform similar duties in their ill-gotten habitation But perhaps the most remarkable part of the story remains to be told. After the sparrows had been some time in quiet possession, I observed about daybreak, on several succeeding mornings, a scratching and pulling at the cord, which was hanging down about six feet in my room, and without a knot at the end. This did not excite much notice, as I thought it was merely an act of playfulness on the part of the birds outside, or perhaps the action of their claws at the bottom of the nest, where the cord passed through it; but what was my surprise one day, on looking for the bell-rope, to see that it was gone, and to find it hanging down by the wall outside. These little creatures had, with amazing perseverance and industry, and, one would suppose, by a combined effort, drawn this length of the cord up through the wall, and so got rid of what was to them no doubt a source of annoyance. We restored the rope to its former place, and this time took the precaution to tie a knot at the end, to prevent the possibility of a similar occurrence. Still, determined not to be altogether defeated even by this expedient, the birds soon had the rope drawn up again as far as the knot would permit them; and, as if to tell us that it should no longer answer *our* purpose, they curiously twisted it round the iron frame in which the bell is suspended, so as totally to deprive us of the power of using it. After this we removed the nest, and again restored the rope to its proper position, since which neither sparrows nor martins have interfered with its operations. I have sometimes regretted that we did not rather sacrifice our own convenience than disturb these little laborious creatures, who had afforded so much amusement to ourselves and our friends.—*Jonathan Grubb.*

Occurrence of the Hawfinch at Banff.—In the afternoon of the 29th of December, while looking out of a window in the Hall belonging to the Literary Society here, I saw, in a pear tree in the garden at the back, a bird accompanied by a robin. On a nearer approach the stranger turned out to be a hawfinch. It appeared to be pecking at the buds, whilst robin stood by watching his movements. After remaining about half an hour it went into another garden a little farther off.—*Thomas Edward; December* 8, 1860.

Nesting of the Crossbill (Loxia curvirostra) *in the County of Durham.*—I procured a nest with three eggs of this species, from a woodman of the name of Grundy. He took it on the 1st of March, 1856, near Crawcrook, Durham, in a spruce fir. It was placed near the top, and about eighteen inches from the stem. The female bird was observed carrying building materials on the 24th of February, and was traced to the nest; she was accompanied by the male. Both birds were shot, and I had the satisfaction of seeing them. This is, I believe, the first time that the nest of the crossbill has been taken in this neighbourhood. Grundy, later in the same year, took another nest with eggs of this bird, not far from the same locality. This nest is in the possession of Mr. T. Robson, of Winlaton Mill.—*John Hancock, in 'Transactions of the Tyneside Naturalists' Field Club,'* iv. 59.

Occurrence of the Great Spotted Woodpecker near Banff.—A male specimen of this pretty and rather rare bird, in very fine plumage, was shot in a garden at a place called Craigston, Aberdeenshire, about seven miles from the town of Banff, on Christmas Day. On dissecting it I found the stomach literally crammed with two species of grub, of a creamy or grayish colour, and about a quarter of an inch in length, one species having a reddish and the other a blackish head; there were likewise a few small beetles and a small spider.—*Thomas Edward.*

Partridges in the Sea.—A few days ago, whilst loitering on the south sands at Scarborough, in company with two gentlemen, a geologist and an entomologist, we were suddenly surprised by a flight of what at first appeared to be wild ducks, but from their close proximity to us we were certain they were partridges. Judge of our astonishment when they deliberately made for the sea: eight of them were immediately drowned, and two alighted on a rock, to which we made our way; and our friend the geologist, being better versed in the stratification of rocks, soon observed and captured one. Thinking the tide would wash the others ashore, we waited for high water, when we obtained two more, which proved remarkably fine ones.—*Alfred Roberts; King Street, Scarborough, January* 20, 1861.

Flight of the Wood Sandpiper (Totanus glareola).—This bird was in the air when first noticed. It flies in circles, and at every change in the direction of its flight it produces a peculiar, musical, sharp and trilling sound, which endures for several seconds. At the same time the wings are observed striking the air with a short, rapid, tremulous motion, which there can be little doubt is the cause of this remarkable sound. The sound produced in a similar manner by the snipe and other waders has not the same sweet, almost warbling tone of this bird.—*John Hancock, in 'Transactions of the Tyneside Naturalists' Field Club,'* iv. 58.

Habits of the Moorhen (Gallinula chloropus).—I am often much amused in watching the habits of the moorhen, which breeds in the sedges bordering the ditch which bounds my garden. The ingenuity with which they bend down the broad sedges to form a foundation for their nest, and to conceal it, and which prompts them also to raise the nest in time of floods, so as to preserve it from injury, with the anxious and affectionate solicitude shown by them for their tender brood, render this bird an especial favourite with me. The past year has been marked by a succession of floods almost unprecedented, and it has been really wonderful how these birds, whose nest was at a much lower level than that to which the water rose, managed to raise it with the eggs gradually, so as to escape injury; yet that such was the case we had abundant evidence. One nest was so near the bank that the eggs were plainly to be seen from the garden walk, and thence we often watched the parent bird sitting upon them, or, in case of too near an approach, gliding noiselessly and stealthily down into the adjacent bulrushes, so as to be out of sight in an instant. I observe, what some others have remarked, that the bird engaged in the duty of incubation has the brilliant vermilion colour at the base of the bill. We used to consider this the male bird. Is the contrary the case? or do both sexes assume this appearance in the breeding season? I rather incline to the latter supposition. These poor birds must now be sorely pressed to find a living. Three weeks of frost and snow, with the thermometer often approaching zero, and once below it, have set fast all our waters; and yet within a few days I noticed a pair of moorhens searching amongst the grassy tufts protruding from the frozen snow for a scanty subsistence. One would suppose there must be some sort of partial migration to milder districts, perhaps to find perennial springs which prevent them freezing.—*Jonathan Grubb; Sudbury, January* 8, 1861.

Occurrence of the Little Bustard (Otis tetrax) *in the County of Cork.*—I have just examined a stuffed specimen of the little bustard which was shot by a countryman on the shore of Ballycotton Bay, in the county of Cork, on the 24th of December, 1860, during the frost, and taken in a fresh state to the Hon. John Cole, M.P., from whom I have obtained the foregoing particulars. The bird is of full-grown size, measuring 18 inches from the tip of the bill to the end of the tail, and from its plumage is probably a male of the year. Thompson, writing in 1850, gives only one well-authenticated instance of its capture in Ireland.—*Clermont; Ravensdale Park, Flurry Bridge, Ireland, February* 15, 1861.

Occurrence of the Surf Scoter (Anas perspicillata) *near Scarborough.*—On Thursday, the 25th of November, I shot a fine mature specimen of that extremely rare species, the surf scoter, on the rocks at Gristhorp, near Scarborough: it was swimming in company with another duck of its own size and colour, and which doubtless was the same species. Mr. Alfred Roberts, our talented taxidermist, has preserved it for me in a very life-like manner.—*Alwin S. Bell; 11, Crown Terrace, Scarborough.*

Duck in the Plumage of the Drake.—In March, 1858, I was taken by Oswald Simm, an intelligent observer, to the farm of Mr. Lowes, of Cramlington, to see a duck in the perfect garb of the drake. It was swimming in a small pond with some other ducks, and so completely did its plumage resemble that of the male that I should never have thought of questioning its sex. On leaving the water, however, it commenced to quack, a cry peculiar to the female, and thus rendered any announcement of the fact unnecessary: it had itself fully proclaimed its own sex. It had the curled feathers in the tail, and in every respect resembled the drake, except in having a small patch of brown on the cheek immediately below the eye. Mr. Lowes gave me the following account of this remarkable duck:—She is fifteen or sixteen years old, and for twelve years of her life she was in the plumage of her sex. Up to that time she laid regularly, and hatched several broods. In fact, the ducks I had seen in her company were her own offspring. After the change of the plumage commenced, her eggs were smaller than the usual size, and she never afterwards exhibited any inclination to sit on them. She had laid one small egg this year (1858).—*John Hancock, in ‘Transactions of the Tyneside Naturalists’ Field Club,’* iv. 58.

Occurrence of the Egyptian Goose (Anser ægyptiacus) *in Devon.*—A fine specimen of the Egyptian goose (a male) was shot at Laira, about two miles from Plymouth, and is now in the possession of a collector in the neighbourhood.—‘*Field*’ *Newspaper.*

Occurrence of the Redbreasted Merganser (Mergus serrator) *at Northwick.*—A female specimen of the redbreasted merganser, answering to the description of that bird given by Macgillivray in his excellent ornithological work, was shot on the Severn, at Northwick, and may be seen at W. Brooks's, Tything, Worcester.—*Id.*

Occurrence of the Hooper (Cygnus musicus) *in Buckinghamshire.*—On Thursday, the 17th of January, two very fine specimens (male and female) of the hooper, or wild swan, were shot at Wragsbury, in the county of Bucks. They have since come into my possession, and I have stuffed them and added them to my collection. The following is a statement of the dimensions, which on comparison will be found equal to those of the mute or tame swan, and exceeding the general weight of the wild bird by almost 3 lbs.:—Weight of male 20 lbs.; length from tip of bill to extremity of tail 56 inches; breadth, with wings expanded, 92 inches. The female is somewhat smaller, its weight being 19 lbs., length 57 inches, and breadth 89 inches.—*G. Hassell (in the 'Field'); Bexley Street, Windsor.*

Occurrence of the Hooper at Carshalton, Surrey. — During the late frost I was in my garden, and observed two wild swans flying a few yards over me, evidently with the intention of alighting on the river. They passed close to me in a similar manner three times, quite within shot; but I had not my gun ready at the right moment, though I had been watching for them. That they were the wild swan, and not tame-bred, I could easily distinguish from their yellow and black beaks.—*Samuel Gurney; Carshalton, January,* 1861.

Occurrence of the Hooper near Brighton.—On Monday, the 7th of January, I had the good luck to shoot the hooper in Poyning's Springs, where it was attracted by a couple of tame swans that were gracefully sailing about in the mill-pond there. This noble bird was in fine condition, and the plumage white as the driven snow: it made its usual hooping or whistling noise, particularly before alighting to the tame ones. It is now in the possession of Mr. Botting, of Poynings. — *T. Thorncroft; Brighton, January* 21, 1861.

Occurrence of Wild Swans at Stockbridge. — Five hooper swans have been about here for some time past, and three more have been shot by a keeper near this place. The weight of the smallest is 17 lbs. 2 oz., the next in size 19 lbs., and the largest 20 lbs. One of them is at present in my possession.—*Reginald Wigram; Houghton, Stockbridge.*

Occurrence of Bewick's Swan (Cygnus minor) *at Pagham Harbour.*—I have a fine specimen of Bewick's swan, one of three killed at Pagham Harbour a few days since. —*H. Pratt; 35, Duke Street, Brighton, January* 15, 1861.

Hooper and other Wildfowl killed at Southend. — At the commencement of the late frost I killed a hooper here, which measured exactly 8 feet from tip to tip of the wings, and exactly 5 feet from the tip of the bill to the extremity of the tail, and weighed 22½ lbs. His head and part of neck, wings and feet are being preserved by Mr. Ward, of Vere Street, and his body was consigned to the tender mercies of my cook, and done ample justice to by myself and family, and a better bird I never tasted. My list of wildfowl killed here this winter includes the longtailed duck, little grebe, velvet duck, scoter, Brent goose, shieldrake, dunbird and goldeneye.—*'Field' Newspaper.*

Additional Eggs of the Great Auk.—I shall be glad if you will insert the following additions to the list given by Mr. Roberts (Zool. 7353):—England (Mr. Wilmot), 1; United States, 2; Museum, Paris, 1; private collections in France, 6; Duchy of Breslau, 1; Museum, Dresden, 1; private collections in Germany, 4; Museum, Leyden, 1; Museum, Amsterdam, 1; Museum, Russia, 1; private collection in the Netherlands, 1; Denmark, 2; Algeria, 1: making the total number amount to 44 specimens.—*Robert Champley; Scarborough, February* 1, 1861.

Additional Eggs of the Great Auk. — I have been quite amazed by the perusal of a list of the great auk's eggs, by Mr. A. Roberts, of Scarborough. It contains no reference to my great auk's egg figured by Mr. Hewitson in the third edition of his 'Eggs of British Birds,' or to the list of the possessors of such eggs given by him, which includes Mr. Scales as well as myself, who are both omitted in Mr. Roberts's list. I once possessed three great auk's eggs: I let Mr. Labrey have one, and another has devolved from my late friend Mr. Wolley to Mr. Newton. Mr. Hewitson's figure of my egg is, unfortunately, placed across the plate, so that there is not space to do it justice; but Mr. Hewitson says it is the most beautiful egg he has seen. I believe one of the eggs enumerated by Mr. Roberts to be a manufactured specimen. The price that genuine eggs now bear should put collectors on their guard. How Mr. Roberts could write his article without referring to Mr. Hewitson's work quite surpasses my comprehension. I am also surprised that both the editor and the publisher of the 'Zoologist' (the latter also published Mr. Hewitson's work) could allow Mr. Roberts's mis-statement to pass without comment. — *J. P. Wilmot; Clarendon Lodge, Leamington, February* 5, 1861.

[I entirely exonerate Mr. Van Voorst from all participation in this matter: probably he has never seen Mr. Roberts's paper: he certainly never saw it until after publication. With regard to my own share in the transaction, I cannot conceive I have committed an error in printing the said paper: I hope it will elicit many other communications on the same subject; and I earnestly invite gentlemen who possess or know of eggs of this bird to record the fact at once in these pages: I may thus be enabled eventually to make out a tolerably complete list of these rarities.—*E. N.*]

Additional Egg of the Great Auk.— An egg of this rare, if not extinct bird, not included in those enumerated by Mr. Roberts (Zool. 7353), exists in this Museum, forming part of the extensive ornithological collection bequeathed to the town of Liverpool by the late Earl of Derby. It is covered over its whole surface with a network of fine irregular markings, interspersed here and there with coarser markings and blotches, particularly towards the larger end. At present it is in the hands of Mr. Hancock, for the purpose of being modelled, and Mr. Hancock tells me it is the most interesting specimen he has seen, and differs very much from any other egg that has passed through his hands. I have had it photographed, and shall be happy to exchange prints with any proprietor of these rare eggs, as soon as the weather will permit their being taken with effect.—*Thomas John Moore; Free Public and Derby Museum, William Brown Street, Liverpool, February* 16, 1861.

Occurrence of the Ivory Gull (Larus eburneus) *at Banff.* — A specimen of this denizen of the icy regions of the North was obtained at Gardenstown, about the end of December last. It is an immature bird, having the face of a blackish brown colour, and numerous black spots on the wings and upper portion of the body; the tips of all the wing-feathers, too, are blackish. There is a blackish band across the tail, very near to the end; but still it is decidedly tipped with white. With these exceptions the bird is pure white, with no appearance whatever of anything creamy or "ivory" about it, as one would be led to expect from its name. Our whale-fishers call it by the more appropriate name of "swan-bird." The specimen alluded to, which on dissection proved to be a male, is being preserved for the Banff Museum.—*Thomas Edward.*

Occurrence of the Little Gull (Larus minutus) *in Sussex.*—During the severe frost I have obtained two specimens of the above species; one, an adult male, shot at Eastbourne, on the 7th of December; the other, a young male, shot off Brighton, on the 7th of the present month: they are both splendid birds, the young one being much marked with black.—*H. Pratt; 35, Duke Street, Brighton, January* 15, 1861.

Ornithological Notes from Aldeby, near Beccles. — The following birds have come under my notice during the last two months: — A little auk was killed near Burgh Starthe, December 15th. During the first part of December large numbers of pied wagtails, on Aulton Broad and vicinity. On the 20th a fine gray shrike, killed by a man in this village, was brought me. I heard of a gray phalarope being killed at

Somerleyton, but did not see it. During the present month several black swans have been seen by myself and others. On the 6th I found, in a field, a sparrowhawk which had attacked a starling: I was walking in the field, and observed a curious trail among the snow; I followed the trail down a hill for a long way, when I heard a curious shrill sound; on looking about I soon found out the cause. Close by the side of a hedge adjoining a wood were a sparrowhawk and a starling tumbling about in a curious manner; and on taking them up I found that the tip end of the hawk's wing-feathers were twisted around the toes and claws of the starling, so that, being frozen together, they could not get away from each other. They must have been so for some time, as the trail in the snow extended to a distance exceeding a hundred yards. The incident was witnessed by another person as well as myself.—*W. Winter; Aldeby, near Beccles, January* 14, 1861.

Occurrence of Rare Birds at Scarborough.—I have had the following birds brought to be preserved:—Peregrine falcon (1), roughlegged buzzard (1), gray shrike (1), masked gull (5), common gull (4), Brent goose (1), tufted duck (one pair), goosander (1), merganser (2), cormorant (2), glaucous gull (2), redshank (1), curlew (3), and many other commoner species.—*A. Roberts; King Street, Scarborough, January* 7.

Rare Water Birds occurring near Shrewsbury.—The following rare water birds have been killed at the places named, and sent to me for preservation, during the last month:—

Bewick's Swan, male (1). Very fine. Shot on the Severn, at Melverley, near Shrewsbury. I have preserved the sternum and tracheæ of this bird; the cavity containing the bend of the latter extends to nearly the whole length of the sternum.

Goosander (4). Two fine males and two females. One pair were killed near Bristol, the other pair on the Severn, near Atcham.

Brent Goose (1).

Smew (3). One, a male, in splendid plumage, shot on the Severn, at Wroxeter; the others on the Dee, near Chester.

Tufted Duck (3, all males). Shot near Bishop's Castle.

Goldeneye Duck (3). One, a male, in the finest dress. All killed near Shrewsbury, on the Severn.

Bittern (1). Killed near Churchstoke.

Little Auk (1). Picked up in an exhausted state near Shiffnal.

—*John Shaw; 6, Wyle Cop, Shrewsbury, January* 31, 1861.

Rare Birds occurring during the late Frost.—The annexed list bears the record of all the birds which have come under my notice during the late almost unprecedented weather. The species to which an asterisk is affixed have either been collected by my friend Mr. J. Hamilton, or have been purchased by him at Cambridge market. C. m. denotes obtained in Cambridge market:—

Shieldrake* (4). C. m.
Oystercatcher* (2). Captured in Lincolnshire.
Brent Goose* (14). C. m.
Goldeneye* (4, adults). C. m.
„ female (3). C. m.
Pochard* (3). C. m.
Goosander* (8). C. m.
Smew,* female (4). C. m.
„ * adult male (1). Caught at St. Holland, near Walton-on-the-Naze.

Scaup Duck * (6). C. m.
„ * male (3). C. m.
Bean Goose* (3). C. m.
Blackheaded Gull* (1). Minard, Argyleshire.
Kittiwake Gull* (1). Shot at Coton, near Cambridge.
Water Ouzel* (2). Minard, Argyleshire.
Rednecked Grebe* (1). Shot in the Fern Islands.
Blackthroated Diver* (2). Fern Islands.
Bewick's Swan (3). C. m.
Hooper Swan (1). Shot in the Cambridge Botanical Gardens.
Pintail (3). C. m.
Common Bittern (1). C. m.
Kestrel Hawk (2). C. m.
Shorteared Owl (2). C. m.
—*S. P. Saville; Dover House, Union Road, Cambridge, February,* 1861.

Ornithological Notes from Norfolk during the late severe Weather.

By Henry Stevenson, Esq.

It is somewhat remarkable that the late intense cold, almost unprecedented in severity if not in duration, should have brought to our coasts so few rarities amongst those feathered visitants whom the rigours of an arctic winter have driven southwards to our scarcely more hospitable shores. The absence of such species as waxwings, crossbills, mealy redpoles and hawfinches amongst the insessorial birds, and of the longtailed and pintailed ducks from the list of wildfowl, is certainly curious in such a winter; but it is not the first time I have observed that, from some unexplained cause, mild seasons produce those rarities which have been looked for in vain throughout a long and trying winter. For instance, in January, 1859, I recorded the recent appearance, in adult plumage, of several fine old males of the longtailed duck at Yarmouth, a very rare species on our coast, and of which no specimens had been obtained for several years; and yet these truly arctic ducks were killed here during one of the mildest winters we have experienced for some time.

As early as the beginning of October, 1860, large lumps of teal, wigeon and other wildfowl, including even goosanders and several young velvet scoters, seemed to indicate the presence of more than usual cold in the North; confirmed also by the appearance of siskins, lesser redpoles and bramblings, and later still of twites and snow buntings, in more than usual quantities. Fieldfares, redwings, curlews, plover, and various species of Tringæ, were also plentiful.

Snipe were numerous early in the season, but woodcocks scarce throughout.

All these, thus timely warned, seemed to pass on to the southward, whilst others, in more or less numbers, appeared throughout the intense frosts that followed in the months of December and January.

The fact of the broads and rivers being frozen during those months, and the fowl thus driven to the coast for subsistence, will account probably for no unusual number being obtained in this neighbourhood, either by gunners or in decoys, those killed and sent to our markets consisting of teal, wigeon and mallard, with pochards and goldeneye scaups, scoters and tufted ducks in smaller quantities. The extraordinary weather-beaten appearance of some of the fowl showed how much they had suffered from the intense severity of the weather; several old male scoters looked completely bleached, and their general appearance indicated, as surely as the sharp keel of the breastbone, that cold and hunger had almost done their work.

Of rarer kinds, immature and female goosanders and smews have been frequently met with, but old males are very scarce, and of these the few specimens shot have been all obtained since the departure of the frost and snow.

Several hoopers have been killed at Yarmouth and other parts of the coast, and some more inland, since the breaking up of the frost; but I have heard of only one Bewick's swan having been killed in this district. Wild geese—like the wild ducks, more plentifully seen than procured—have comprised the ordinary kinds, the pinkfooted being probably the rarest amongst them.

The broads being frozen over, their usual denizens—the coots, grebes and waterhens—have had a hard time of it, the former making for the coast with other wildfowl; and snipe were not to be met with, except a few weighty specimens that had found a snug retreat beside some inland spring. Several green sandpipers were shot during the sharpest weather, between the 24th of December and the 5th of January.

The combined influences of cold, starvation and persecution caused a dreadful slaughter amongst the fieldfares, redwings, blackbirds, thrushes and starlings during the early period of the frost, especially in the Christmas week. The roads and lanes were then infested with gunners of every class, from the schoolboy to the "doubtful customer;" and I fear the amount of partridges popped off under the corn-stacks, by many of the latter description, has in some places sadly thinned the already scanty supply for another season. It is worthy of remark, however, that in spite of a deep snow the partridges appeared to suffer less than other birds; several that I shot, during the entire batch of cold weather, were in fine condition; whilst the bramblings, larks, &c., frequenting the same stacks for food, were many of them half-starved.

During the last winter I recorded the extraordinary number of kingfishers killed near this city, of which the larger number were undoubtedly migratory visitants. This year I have seen only one or two chance specimens, brought into Norwich for preservation; but the green woodpeckers have, in their turn, suffered to such an extent that between twenty and thirty were brought to one of our birdstuffers in less than three weeks.

A great many blackheaded and common gulls were shot both inland and on the coast, and appeared to have suffered much, as did also the rooks and Royston crows.

The following is a list of the rarer species observed during the last two or three months, with dates of the capture of individuals where obtainable.

Hen Harrier. First in order, and not least in rarity, are two fine old males of this species in their delicate blue and white plumage, in which state they have become of late years extremely scarce in this county. The first of these, and the most perfect bird of the two, was shot at Hickling on the 12th of January, the other at Hargham about the same time. This bird still retained a small patch of brown on the nape of the neck, with a few brown feathers on the back. Two young males in their first year's plumage were killed at Horning and Brundall about the 21st of December.

Merlin. A splendid little male in full adult plumage (alas! very scarce now in this stage) was killed at Shottisham on the 14th of January, an immature female at Sherringham on the 24th of December, and several seen in different parts of the county about the same time.

Dipper. Two of these very accidental visitants have been shot during the winter, one at Beeston, near Cromer, on the 29th of December, and another inland on the 28th of January. These birds are no doubt stragglers from the northern counties, frozen out from their natural haunts and wandering in search of food. Both birds appeared to be immature, the white of the breast being scarcely so pure as in adult specimens, and the under parts wanting the chestnut band. I believe that the very few specimens of this bird that are met with from time to time in Norfolk are all birds of the year dispersed during the autumn and winter.

Chaffinch. A very beautiful and unusual variety of this common bird may claim a place in this list. It was killed near Norwich on the 10th of January. The head and back are white, with the most delicate yellow tints over certain parts, and a few brown feathers are irregularly mixed with white in the wings and tail. The throat, breast and under parts also white, tinted with rose-colour.

Bitterns. Two killed at Wroxham and one at Acle about the first week in January, and one at Hempstead on the 10th. This species has, I believe, ceased to breed in our marshes, and the specimens thus met with nearly every year, but more especially in severe weather, are undoubtedly migratory arrivals from the north.

Dunlins, Knots and *Sanderlings* have appeared in immense numbers on the sea-coast and mud-banks of the tidal rivers. Of the former I have seen more than a hundred at one time, during the sharpest part of the frost, offered for sale in the streets, tied in bunches to a stick. A few purple sandpipers, bartailed godwits and curlews also appeared.

Hoopers. Several killed at Yarmouth and other parts of the coast during the first week in January. Mr. Somerville Gurney, whilst shooting at East Winch, on the 9th, had the rare fortune to kill no less than three, one after the other, with a breach-loader. About the 4th or 5th of February one was shot at Cossey, within three miles of this city, and three others were seen in the same neighbourhood a few days later. As before mentioned, I have heard of only one specimen of Bewick's swan, killed at Blundestone, in Suffolk. These birds were pretty numerous during the sharp winter of 1855, when two Polish swans were also shot in Norfolk.

Wild Geese. Bean and Brent geese as usual numerous, especially in the large open districts in the western parts of the county. A few bernicle and whitefronted geese have also been brought to the market, and two or three specimens of that rarer species the pinkfooted goose, but no gray-lags that I can ascertain.

Goosanders. Several females and young birds have been killed since the commencement of the sharp frosts, but very few old males, as in the winter of 1855. I have seen but two of these birds this season in their full plumage, with the rich buffy tints on the under parts, and these were killed between the 24th of January and the 5th of February, when, even in the first instance, the snow and ice had yielded to a rapid thaw.

Redbreasted Merganser. More scarce than usual. I have seen only one female and a young male, killed in January. No old males heard of at present.

Smew. Several females and young birds killed between the 8th and 15th of January in different parts of the county, some quite inland. On the 26th a splendid old male was brought to me, killed the previous day on Surlingham Broad. It was in company with another old male and a female. I have also heard of a third white smew having been shot about the same time.

Gannet. Several fine old birds shot off Yarmouth about the 12th of December.

Blackthroated Diver. A very fine bird shot on the 10th of January somewhere in the county, having the back and wings freely spotted with white, and a slight appearance of black on the throat. Another fine specimen from Hickling on the 1st of February; the back spotted, but the throat white.

Redthroated Diver. Two fine heavy birds killed at Sherringham on the 14th of January; speckled backs and white throats. A smaller specimen from Yarmouth about the 8th of February.

Cormorant. A young bird killed on the 7th of January.

Little Auk. Several of these storm-driven stragglers were picked up between the 15th and 30th of November, but none, I believe, during the frost and snow.

In comparing the above list with one which I inserted at the time in the 'Zoologist' (Zool. 4660), respecting the rare winter visitants of 1854-5, it will be seen at once that the milder season produced quite as imposing an array of rare species, whilst the number of specimens obtained in many instances far exceeded the collector's chances during the recent intense frosts. At that time more than twenty hoopers, six Bewick's and two Polish swans were killed in this county; and out of thirteen goosanders six were adult males, with three old males of the redbreasted merganser.

H. STEVENSON.

Norwich, February 11, 1861.

Collected Observations on the Nests and Eggs of British Birds.

By EDWARD NEWMAN.

THE object of this paper is to furnish a guide to those younger readers of the 'Zoologist' who do not possess Colonel Montagu's rare and invaluable 'Dictionary,' or the expensive works of Selby, Hewitson and Yarrell. I purposed introducing the subject by some general observations on the eggs of birds as associated in Natural Orders or Tribes, but I reserve this until my list is complete, contenting myself with stating that the number, shape, colour, position, and even the surface of birds' eggs, afford characters by which the Tribe is often indicated with great clearness. Nothing can be more artificial than the Vigorsian or quinary arrangement of birds, and it is only when this is totally disregarded that the egg, the nest, the period of incubation, can be rendered available in classification. Throughout the animal kingdom the earliest period of vitality is that which affords the most reliable and constant characters. I would not, and do not, undervalue the differences of the adult, but those who have studied the beautiful theory of representation will readily admit how completely the same colour, figure and admeasurements may be repeated in birds that have no physiological characters in common. Hence the difficulty of trusting to those characters alone.

Then with regard to the omission of so large a number of birds that appear in our lists. I am not unaware that, in the majority of such cases, the nest and eggs have been described by Temminck, Richardson or Wilson, and that the descriptions have been transferred to works treating of British Birds; but, so far as I can ascertain, in all such instances, no British nest has ever been examined and described, and therefore I cannot think there is any utility in transplanting to my list definitions that certainly have no reference to British individuals, and, possibly, not even to British species.

Lastly, with regard to the quotations from the 'Zoologist,' those which I have made were published so long ago that they have probably been forgotten. I think that when the applicable passage has been printed more than twelve years I have only referred to it; prior to that period I have sometimes quoted it entire.

Order I. RAPTORES.

GOLDEN EAGLE, *Falco Chrysaëtos.*

Situation. Cliffs facing the sea in Scotland.

Materials. Large rotten sticks, ling, grass. Generally an immense mass, with scarcely any depression in the middle. We have very slight evidence of the golden eagle now breeding in Britain; Pennant informs us that it builds on cliffs near the deer forests in Scotland and on the Snowdon range in Wales. Willoughby tells of a nest in the Peak of Derbyshire, and in the 'History of Northumberland' we learned that "it formerly bred on the highest and steepest part of Cheviot."

Eggs, 2, 3. Dingy white or gray, blotched and clouded with red-brown.

WHITETAILED EAGLE, *Falco albicilla.*

Situation. Cliffs facing the sea in Scotland and Ireland.

Materials. Sticks, ling, grass, wool.

Eggs, 2. White, unspotted. "Mr. Maxwell, of Ardbraccan, in Ireland favoured us with two young birds of this species alive, taken the preceding year on a mountainous precipice or craggy cliff called Slieve Donald, impending the sea in the county of Down; the eaglets were covered with a glossy, dark, murrey-coloured down as it was termed." —*Col. Montagu.*

OSPREY, *Falco haliæëtus.*

Situation. Tops of trees, deserted buildings, or rocks; always near water.

Materials. Sticks and wool. Sir William Jardine says "the nest is an immense fabric of rotten sticks;

> 'Itself a burden for the tallest tree,'

and is generally placed, if such exists, on the top of the chimney, and, if this be wanting, on the summit of the building. * * * Loch Lomond, Loch Awe, Kilchurn Castle and Loch Menteith have long been breeding places."

Eggs, 4. Yellow-white, spotted and blotched with red-brown.

GOSHAWK, *Falco palumbarius.*

Situation. In tall fir trees in the Orkney Islands? banks of the Dee? forest of Rothiemurchus?

Materials. Sticks, &c.

Eggs, 2—4. Bluish white.

PEREGRINE FALCON, *Falco peregrinus.*

Situation. Sea cliffs all round our coast.

Materials. Sticks, &c.

Eggs, 3, 4. Red-brown, with darker blotches and clouds.

HOBBY, *Falco subbuteo.*

Situation. High trees, often adopting the nest of a crow or magpie, and using the same materials.

Eggs, 3. Almost covered with yellow-brown or umber-brown markings and black dots.

MERLIN, *Falco Æsalon.*

Situation. On the ground among heather.

Materials. Sticks, heather, grass in small quantity.

Eggs, 3—6. Brown, marbled and thickly covered with darker spots or blotches, more especially at the larger end.

Kestrel, *Falco tinnunculus.*

Situation. Mountain rocks and sea cliffs, but sometimes takes possession of the deserted nest of a crow. Mr. Gurney records (Zool. 1820) the fact of a pair of kestrels nesting in a hollow pollard oak.

Materials. Sticks, hay, wool, slight, loose and slovenly.

Eggs, 4—6. Red-brown, or whitish with darker blotches.

Sparrowhawk, *Falco nisus.*

Situation and Materials. Often adopts the nest of a crow or magpie in tallish trees, but certainly sometimes builds its own of sticks, &c., making a flat platform at first.

Eggs, 4—6. Bluish white, with red-brown blotches at the larger end.

Kite, *Falco milvus.*

Situation. Tall trees, placed in a strong fork. I have never known of a nest of this bird.

Materials. Sticks, lined with a quantity of soft materials, especially wool.

Eggs, 3. Gray-white, speckled and streaked with orange-brown, principally at the larger end.

Buzzard, *Falco buteo.*

Situation. Woods, in moderately high trees.

Materials. Sticks, hay, wool, leaves; sometimes adopts an old crow's nest.

Eggs, 2, 3. Dingy white, and either plain or blotched and spotted with red-brown, chiefly at the latter end.

Honey Buzzard, *Falco apivorus.*

Situation. Trees in thick woods; not uncommon in the New Forest, Hampshire.

Materials. Boughs and twigs of trees broken off with the leaves on, wool, hay. The only reliable description I have read is by Mr. Willmot, in the 'Zoologist' (Zool. 437); "The nest, a very large one, was placed in the fork of a beech tree, and was built of sticks of considerable size, with which were intermixed twigs with the leaves on; the lining was composed of leaves and wool."

Eggs, 1—3. Yellowish white, spotted and stained with red-brown.

Marsh Harrier, *Falco æruginosus.*

Situation. In those tussocks of grass or sedge so observable in marshy places, and which are elevated some two or three feet above the ground.

Materials. Sticks, dried sedge and other grasses.

Eggs, 4, 5. White, unspotted.

Hen Harrier, *Falco cyaneus*.

Situation. On the ground at the bottom of furze bushes, on heaths and moors.

Materials. Dried heather, wool, hair, hay.

Eggs, 4, 5. Both ends equally rounded, white, faintly tinged with blue, and rarely spotted with red-brown.

Ashcoloured Harrier, *Falco cineraceus*.

Situation. On the ground amongst furze and low brushwood.

Materials. Heather, sticks, hay, wool, laid loosely together.

Eggs, 4—6. White. This hawk has a great propensity to take and devour the eggs of other birds, as recorded by Mr. Rodd at p. 3475 of the 'Zoologist.'

Longeared Owl, *Strix otus*.

Situation. Trees in woods.

Materials. Adopts the nest of a crow or magpie, never making one of its own.

Eggs, 3—7. White, almost equally blunt at both ends.

Shorteared Owl, *Strix brachyotus*.

Situation. On the ground on extensive moors and heaths.

Materials. Scarcely any. Sir William Jardine writes of the earth being merely scraped or scooped out in the form of a nest.

Eggs, 4, 5. White, equally blunt at both ends.

Barn Owl, *Strix flammea*.

Situation. Barns, churches, ruins, old buildings and hollow trees.

Materials. Generally very slight; sticks, hay, and often only the bird's castings.

Eggs. Laid in pairs; a second pair, and often a third, being laid before the young produced from the first pair has flown.

Tawny Owl, *Strix aluco*.

Situation. Trees, generally adopting the old nest of a crow, sometimes, according to Selby, in hollow trees.

Materials. None brought by the birds.

Eggs, 3—5. White, elliptical.

Order II. INSESSORES.

Redbacked Shrike, *Lanius Collurio*.

Situation. In whitethorn hedges, furze bushes, &c.

Materials. Moss, wool, hair, bents of grass.

Eggs, 5, 6. Pink-white or cream-colour, with brown spots, particularly at the larger end.

Spotted Flycatcher, *Muscicapa grisola.*

Situation. In trees trained against houses and other buildings, particularly pears, apricots, roses; often in barns, summer-houses and green-houses; once in a lamp at Leeds, and once in London. See also p. 3657 of the 'Zoologist,' and especially p. 3577, where it is related that the nest was built on a hoe that hung on a nail in a tool-shed, and was not discovered until finished. When the hoe was wanted the nest was taken off and laid on a shelf, and returned to its original site as soon as the hoe was hung up again, an arrangement which the parent birds cordially approved, and eventually brought off their young ones in safety.

Materials. "Of three nests now before me, one is formed on the outside of old dark-coloured moss, mixed with roots, the lining of grass stems, with only two or three white feathers; the second has the bottom and outside of fresh green moss, lined with a few grass bents, long horse hairs, and several mottled hairs, apparently those of a turkey; the third is similar to the last on the outside, but lined with long horsehair, wool and feathers."—*Mr. Yarrell.*

Eggs, 4, 5. Gray-white, with pale raw-sienna spots.

Pied Flycatcher, *Muscicapa atricapilla.*

Situation. In hollow trees.

Materials. Leaves, hay, hair, feathers.

Eggs, 4, 5. Pale blue-green, unspotted.

Dipper, *Cinclus aquaticus.*

Situation. Banks of streams, caves, underneath the arches of bridges.

Materials. Moss for the exterior, dry leaves for the lining, of large size and almost globular form, with a central hole for the entrance and exit of the bird.

Eggs, 5. White, delicate, semitransparent, unspotted.

Missel Thrush, *Turdus viscivorus.*

Situation. In trees, resting on a branch close to the trunk, often amongst ivy. A singular instance of a pair of this bird laying twice in the same nest is recorded by Mr. Bond. "A pair of missel thrushes built a nest in a low shrub in a neighbour's garden, and brought off their young; since which the hen laid four more eggs, but after sitting some time deserted the nest in consequence of its cracking nearly in two."—*Zool.* 656.

Materials. Moss, grass, wool, the interior lined with slender dried stems of grasses.

Eggs, 4—6. Pale green, speckled with brown of two shades.

Song Thrush, ***Turdus musicus.***

Situation. Hedge-banks, sometimes on the ground and low bushes, or against the trunk of a tree, especially in ivy.

Materials. Moss and grass outside, the interior lined with a coating of moss, clay or cow-dung, in which decayed wood is often mingled.

Eggs, 4—6. Blue-green, with purple-black spots; sometimes unspotted. A very unusual departure from the usual colouring is recorded in the 'Zoologist' (Zool. 1875), the ground being white, the spots dark red.

Blackbird, ***Turdus merula.***

Situation. Bushes, holly, laurel, in ivy on a tree trunk, &c. Mr. Duncan mentions in the 'Zoologist' (Zool. 382), an instance of a blackbird building its nest within that of a magpie. I have repeatedly known a pair of blackbirds commence four or five nests near the same spot, and only finish one of them: the cause of this I am unable to explain.

Materials. Moss, twigs, roots, intermixed with mud, clay, or cow-dung, but lined inside this plastering with very fine slender grasses.

Eggs, 4, 5. Blue-green, rather dull, uniformly sprinkled with brown; rarely bright blue-green, unspotted.

Ring Ouzel, ***Turdus torquatus.***

Situations. Only in the northern mountainous districts of England and Scotland, on steep banks, in clefts of rocks, low bushes, &c.

Materials. Moss, roots, lined with fine grasses.

Eggs, 4, 5. Blue green, dull, freckled with brown. Either blackbirds' eggs are offered for sale as those of the ring ouzel, or the eggs of the two species are so similar as scarcely to be distinguished.

Hedgesparrow, ***Sylvia modularis.***

Situation. In whitethorn hedges, dwarf hollies, laurels, furze bushes, &c.

Materials. Moss and wool lined with hair.

Eggs 4—6. Bright blue-green.

Robin Redbreast, ***Sylvia rubecula.***

Situation. Quite on the ground on banks, but generally protected by roots, or in a cavity, or under ivy. Many other and very strange situations are recorded. The Rev. John Atkinson mentions (Zool. 565) an instance of a pair of robins building in a watering pot.

Materials. Moss, dried stems of herbaceous plants and leaves, lined with hair.

Eggs, 5, 6. Gray, with red-brown spots, but frequently white and unspotted.

EDWARD NEWMAN.

(To be continued).

Fish Devoured by Snails: Longevity of the Stickleback.—The freshwater aquarium is now so common an object of attention that probably few of the many interesting facts to be observed in the habits of its inmates remain unrecorded. I was not, however, fully aware until rather lately that the larger water snails (Limneus pereger at least) catch and devour the small fish when they are placed with them in confinement, but whether this is the case in their native pools and streams I am not able to say. I was for some time at a loss to discover what could occasion the death of several minnows which I found mutilated and partly eaten, when at length I perceived one apparently just caught, with its tail in the grasp of a large Limneus. This, I think, happened repeatedly, and served to acquit of the destruction a fine silver fish, which I had been ready to accuse in this matter. I never witnessed the actual capture, and am still puzzled to imagine how such agile little creatures, darting rapidly here and there amongst the aquatic foliage, can fall a prey to the slow-paced mollusks which cling to the glass or the rock, or glide with scarcely perceptible motion, shell downwards, on the surface of the water. That elegant and curious insect called (I believe, but am not learned in these matters) the "water-boatman" (*Notonecta*), soon had to be dismissed, much as I enjoyed watching his evolutions; he clearly made too great havoc among his finny companions; but there was no mystery in this, considering the swiftness of his movements. The Paludina vivipara, though here of a very large size, seems perfectly harmless, and, as far as can be seen, eats neither animal nor plant in a living state, subsisting on the decaying vegetation, or perhaps on the Infusoria and other creatures invisible to the naked eye. Of these latter, the little "world of water" in the aquarium seems to contain an endless and most beautiful variety, affording a vast supply of wonders for the microscope; indeed a common pocket lens will often reveal a fringe of animated flowers, or wine-glass-shaped animals, adhering to the leaves of the Chara and other water plants. The Paludina, Bythinia, &c., bury themselves for weeks or months in the soil at the bottom, and crawl up at intervals, their shells sometimes clothed with a branching moss-like vegetation. The larger specimens of Limneus pereger seemed all to die last summer, as soon as the eggs were laid, but the smaller ones have continued alive and still growing for a long time. When they die the animal often remains attached to a plant or other substance while the shell becomes loosened and drops off, perfectly empty to the tip of the spire. This accounts for what had often excited my surprise when collecting for a cabinet, *viz.*, the large number of fresh and clean specimens to be found amongst the drift from the river in time of flood, showing that the mollusk had not decayed away in its covering as one might expect. The eggs are worth examining in the microscope, the movements of the little snails being very discernible through the transparent membrane enclosing them. Yarrell says the stickleback lives only about two years; one of mine has been in the aquarium, I think, nearly double that time, and continues an exceedingly tame and amusing pet, always coming to my fingers to be fed or noticed when anything requires attention in its neighbourhood.—*K.; Sudbury, January* 10, 1861.

Occurrence of the Dory (Zeus Faber) *near Hartlepool.*—On the 13th of February, 1860, a fisherman from Hartlepool brought me a fish which he did not know; it proved to be a small but good specimen of the Dory. It was 13 inches long, and about 6 inches broad. This is the first occurrence of this fish on our coast with which I am acquainted.—*John Hogg, in 'Transactions of the Tyneside Naturalists' Field Club,'* iv. 336.

Eel caught in a Field.—My man has just brought me in a large eel which he caught in the middle of a stubble field. There is an old pit in the stubble field with a little water in it. The length of the fish is 39½ inches, girth 8¼ inches; weight 4 lbs. 12 oz. I never knew an eel caught in this way before: perhaps you will know if it is usual for eels to leave the water at this time of the year. The colour of the fish is very good.—*George Hoult* (*in the* '*Field*'); *Crown Brewery; Whittle Springe, near Chorley, Lancashire, December* 13, 1863.

Snails as Food for Sheep.—Several writers in the 'Field' newspaper have lately mentioned the circumstance of the sheep in Devonshire eating snails, and one writer believes this novel food gives its admitted superiority to Devonshire mutton. Is the species thus eaten by the sheep that mentioned in the following communication? —*Edward Newman.*

Notes on Helix revelata.—On the 11th of December a friend from an inland town called upon me for the purpose of being made acquainted with Asplenium marinum. As I greatly wished that my friend should see this fern in its native luxuriance, he was conducted to the semi-marine rocks and caves of Whitsand Bay, on the south coast. In a large plateaued ravine that led from the top of the cliffs to the beach, patches consisting of hundreds of plants of Erodium maritimum were to be seen, and on them and the surrounding herbage appeared large numbers of node-like forms, which a closer scrutiny revealed as Helix revelata. A new feature observed on this occasion is that this shell was exposed on the uppermost parts of the herbage. At all other times when requiring this mollusk I have had to seek it in its haunts, which are generally under objects that offer sufficient shelter to the animal. In June, whilst collecting plants for the herbarium, H. revelata was near the roots or under the foliage of Erodium cicutarium, Trigonella ornithopodioides, Trifolium subterraneum, T. scabrum and Ornithopus perpusillus, and also about many other plants of recumbent growth. The state of the atmosphere in June was damp, in December it was wet, and had been for several days in like condition. H. revelata is a plentiful species in the above-named locality. In parched seasons H. revelata is concealed under cover of the many objects that are found in Nature suitable for the purpose. Thus in dry weather it is deeply hidden between the line of demarcation, where the herbage ceases to grow at the base of rocks and stones. It is likewise to be found snugly burrowed some inches under the surface of the ground, about the outline of clumps of furze. Other facts observed on the 11th of December, and worth recording, are: *first*, there were many full-grown dead shells lying on the turf; *secondly*, these shells were mostly in as good condition as the living shells, for the colour, the epidermis, together with the hairs thereon, were well preserved. Whitsand Cliffs consist of dry sloping rocks of slate, having no pools and very few streamlets. In summer time, when there is summer weather, the greater part of the cliffs and slopes are as a desert deserted, the turf is so scorched. As the head habitat in Britain for H. revelata is on the above-named cliffs, this species cannot rightly be considered a moisture-loving mollusk. It rather appears that this animal prefers a station where an intermediate condition of not too wet and not too dry is the order of things. H. hispidus occurs in wet places in the neighbourhood, but no H. revelata in its company. From the preceding notes may be gleaned of H. revelata, *first*, it is a plentiful species at Whitsand Cliffs; *secondly*, this shell is full grown late in autumn, as dead shells in good condition, in great numbers, were found in early winter; *thirdly*, superabundant moisture, as well as an arid state, are not congenial to its development, as the species shuns both conditions.—*J. J. Reading; Plymouth, January* 15, 1861.

The new British Physa.—It is with pleasure I see this mollusk, which has been a subject of controversy with me for several years, has stood the test of a thorough examination and proved to be distinct, and feel that I must add my testimony to its claim to rank as a true Briton. It was about four years since, when collecting fresh-water Mollusca, that I first found this species, and was struck with its apparent difference from anything I had, but, being quite a novice in Conchology, was unable to point out its minute distinctions. I therefore brought it to the notice of several conchologists of my acquaintance, and they declared it to be Physa fontinalis; with this decision I was, however, not satisfied, and kept the specimens apart, carefully labelling the locality. Upon coming to Kew last spring, I immediately recognised my old acquaintance—namely, the Physa—in the tanks used for aquatic plants in the Botanic Gardens, and pointed it out to Mr. Choules, and he, upon referring to his journal, found that many years since he had collected plants for these tanks in the locality I mentioned to him, and without a doubt the Physa must have been brought with them, where it had remained unknown and uncared for till last summer. The notice sent by Mr. Choules (Zool. 7278) has led to its identity by gentlemen whose authority we cannot doubt. In answer to Mr. Dalton's query, I can state that confinement in the tanks does not by any means tend to develop the spire to an unnatural extent; the specimens sent to Mr. Norman were the average size to which it attains in its native habitat, but one specimen I have in particular is a much larger shell than any I have seen in the tanks. It is by no means common in its natural locality, the few specimens I have and those sent for examination being, I think, all that are at present known; but I cannot conceive it at all probable that it has been introduced to the little spot where, four years ago, I first found this new addition to the British Mollusca.—*William Hugh Gower; 3, Park Cottages, Kew.*

Paludina vivipara not invariably viviparous.—That the specific name of this mollusk is not (invariably at least) descriptive a sufficient proof has just occurred in a fresh-water aquarium, inhabited by several individuals for many months past. A remarkably fine specimen has deposited some large semi-transparent eggs, from which, I have every reason to believe, the young emerged in a day or so afterwards: they were visible within their covering, and afterwards in the neighbourhood of the deserted membrane. The little creatures (it may not be new to observe) are, at this early age, clothed all over the shell with pellucid hairs, and a row of spines remains, until they are about half-grown, surrounding the middle of each volution, but at length they appear to become quite smooth. Those lately excluded are, at the present time, very elegant objects, the shell delicately ornamented with the spiral brown lines, which, in the parents, become partially obscured by some vegetation accumulating upon them, the more, perhaps, from their extremely sluggish habits in keeping long quite motionless at the bottom of the water. Possibly in the summer, and in the river, there may be no eggs laid, although the fact is as I have stated in the winter, and in a tank which was lately frozen over.—*K.; Sudbury, February* 11, 1861.

Note on Lampania zonalis.—This genus belongs to the estuary group of Cerithiidæ, with orbicular multispiral opercula. It inhabits sand and mud flats between tide-marks. The animal, in nearly all particulars, resembles Cerithium: there is no visible siphon, only a pallial fold; the whitish tentacles are ringed with dark brown; the muzzle is broad, annulated with dark brown, and fringed at the under edge with short whitish beards; the back of the neck is marked with square brown spots like the dark spots on the shell; the foot is short, truncate in front and lineated with dark brown. Lampania is inactive and crawls slowly; it is very tenacious of life, surviving removal from the water several days. It is a very ubiquitous mollusk: I have met with it at Macao and Hong-Kong in the South and at Ta-lien-Hivan and Shantung in the North of China. In the Sea of Japan I have followed it from the Korean Peninsula in the South to the island of Saghaleen in the North.—*Arthur Adams.*

Capture of Lepidurus glacialis in Lian-tung.—On the 12th of September we land on a projecting point, marked on the charts as an island, on the eastern side of the gulf of Lian-tung, about forty miles north of Hulu-Shan Bay. On leaving the boat near the rocky cape named Cape Vansittart, which is separated from the mainland by a flat sandy neck, we approach a rounded knoll, on the summit of which is a square watch-tower with Tartar horsemen grouped picturesquely around, a scene my artist friend, Bedwell, is desirous of sketching. In the distance are the angular cold gray peaks and ridges of a barren mountain-range, with here and there a gleaming streak, as of quicksilver, running down their sides as the sun shines on the water-courses and little winding streams. At the base of these lifeless granite masses stretches a level plain, green and fertile, where little straggling hamlets of low flat-topped mud-houses are snugly sheltered in long groves of trees. To this succeeds a sterile sandy belt with a chain of freshwater ponds, shallow and full of weeds, and with muddy open spaces between them,—the natural resort of the curlew, the whimbrel, the plover and the snipe. Here also we see the spotted crake (*Gallinula porzana*, Linn.), a very sly little fellow, keeping close in the cover of the reeds and grass. The pretty but scentless Chinese pink, a little blue-flowered Iris, and a yellow, red and white mixture of the blossoms of the tormentil, the heads of Sanguisorba and the loose corymbs of the flower-of-yarrow, complete nearly all the plants that redeem the sandy soil from sameness and utter sterility. Nearer the sea long salt-water lagoons and shallow swamps extend, covered in some parts with a white-flowered sea-lavender and the blue stars of Aster tripolium, and from which the great white heron (*Ardea alba*) slowly rises, with bright yellow bill stretched out in front and long black legs stretched out behind, and after a few lazy flaps with his huge curved wings, alights again to resume his interrupted fishing. Equally familiar is his yet larger cousin in gray, the common heron (*Ardea cinerea*), and, standing on one leg, her loose snowy plumes waving in the breeze, the elegant white egret dreams of frogs and fishes. Sandpipers and greenshanks run piping and probing about the margin, and gulls and little terns (*Sterna minuta*) scream, quarrel and hover over the heads both of bipeds and birds. Now as I stoop to collect some specimens of Limnæa, in one of the clear freshwater ponds with a bottom of sandy mud, my attention is arrested by an object which, at first sight, I regard as an unknown genus of bivalve Mollusca, but on placing it in a bottle of water the real nature of the creature becomes revealed; it is an Entomostracon: as a whale among minnows, so, said I, is my new genus among water-fleas; but again I was mistaken. I had not fished long before I brought to light a veritable Apus or shield-shrimp, and I saw at once that my supposed new genus was the young of it, thus illustrating very prettily the law in the development of organized beings, that the transition state of a higher form will represent the permanent condition of genera lower in the same class, for the Apodidæ are justly regarded as the highest among Entomostraca. When I get on board I examine my captures with the valuable aid of my friend Dr. Baird, or rather of his 'Monograph of Apodidæ,' and I find they belong to Leach's genus Lepidurus, which is furnished with a plate between the bases of the long caudal filaments. I find, moreover, that my specimens agree exactly with the description of L. glacialis of Kroyer, from Cape Krusenstern in North America: "The tail setæ are finely plumose, and the flap between them is of a somewhat square shape, short and toothed on its edges." I cannot find any account of the metamorphosis of the Apodidæ, or whether it is known that in the young state the shield is folded on itself longitudinally in the form of a bivalve shell, which entirely conceals the head, body and feet of the animal. There is but a single large black eye in these young ones, situated Polyphemus-like, in the middle of the forehead. The very young larvæ are of a pale horn-colour, and swim in a steady manner forwards, the ventral edge of the shell being directed downwards. As they move through the water they partially expand and close the valves of the shell. Older and larger individuals are olivaceous, and are fond of lying on their sides in the sand at the edge of the pond, and now and then spin round and round by means of their protruded tail. The adult of Kroyer's shield-shrimp, as it may be called, keeps in deep water, and is voracious and predatory, not confining his attention to small things in the water, but even feeding on drowned dragon-flies.—*Arthur Adams.*

Eggs of the Genus Colias imported in Clover (see Zool. 7359).—I have for many years thought that the eggs of C. Edusa — the only species I have seen here — are imported along with clover seed from the Continent, and which is sown every year all over the Cotswolds. I can only account in this way for the appearance of this butterfly on our hills. My observations are chiefly confined to the neighbourhood of Cirencester, where I have seen this insect occasionally, either by the road-sides or in the garden, but not more than two or three in the season, until the year 1859, when they appeared in great numbers. I remember, in a walk of four miles along one of the roads which leads from Cirencester into the country, counting more than twenty, and they were seen in other directions. The sides of our highways on the hills have mostly been quarried, and in these spots a profusion of small flowers spring up, which no doubt attract these butterflies from the fields where we may suppose they have been bred. It is a beautiful and refreshing sight to see them pass and repass, and alighting on the various flowers, quite undisturbed in their peaceful and happy enjoyments. I think that all of those which I saw were males. I did hope, that having appeared in such numbers and in so inviting a region, I should have seen some the following year; but no, not one was on the wing. This may be accounted for by the extreme wetness of the season; and I understand on the south coast of Devon, where they were in profusion in 1859, none were seen in 1860: this I know from my own observation in our locality. The practice of paring and burning the surface soil every third year would in a great measure prevent the permanent settlement of the species on our hills. The statement of Mr. Gregson seems to want further elucidation, to satisfy the minds of those who cannot understand how the eggs of a butterfly can be introduced into a seed protected by so hard an envelope. If the butterfly lays her eggs upon a leaf or some portion of the stalk of the plant, I think then there would be no difficulty in the case. The lucerne is not cultivated on the Cotswolds, and I know well what an attraction its flowers offer to numerous species of butterflies, having seen even small patches of it alive with them.—*Joshua Brown ; Cirencester.*

[The interesting ingredient of the importation hypothesis will be found in the fact that the observations of a hundred years go to show that the egg is always laid on the leaf, and is always hatched within ten days of being laid, as I have stated in the 'Butterfly Number,' p. 6, line 48. How during these ten days can it get into a sack of clover-seed ?—*Edward Newman*].

Eggs of the Genus Colias imported in Clover (see Zool. 7359). — I said in a paper read before the Northern Entomological Society, on the subject of disputed or imported species, that by carefully passing the bottoms, that is the last few pounds, of sacks of seed, under my glass, I had succeeded in finding more than one species of Lepidopterous eggs amongst the seed; but as that paper was lost at the Meeting, and only found again by accident, and returned to me by the friend who found it amongst his papers, and has never been read by any one except the said friend, or left my hand since, I am at a loss to think how Mr. Newman could construe a sentence incidentally used in the 'Intelligencer' into such a fact as he tells us I have discovered. In my paper I said I supposed that in dressing the seeds the eggs were loosened, sieved with the seed, and so reached England. I showed that it was quite impossible for certain species to reproduce themselves in certain localities without being seen annually by the sharp eyes that were on the look-out for them, instancing certain species in special localities, &c. A discussion ensued, ending in its being shown that the eggs, like the seeds, could not be injured by the weight of the seed upon them, &c.; and I believe the paper gave general satisfaction, and was said to have "opened quite a new point of view to look at disputed species from." I cannot help saying that, having quite satisfied myself on this question, I thought so little of the paper itself that I did not even know it was lost until I received it through the post, accompanied by a letter saying that my friend had read it and was well pleased with it.—*C. S. Gregson ; Stanley, near Liverpool, February* 12, 1861.

[I have taken the liberty of striking out three paragraphs which bore rather severely on London entomologists generally, and on myself in particular; the first, because I stand alone in having introduced this matter to my readers, no one else having taken any part therein; secondly, because to any charges against myself I ought in courtesy to reply; and I believe I have not a single reader who would care a straw either for the attack or defence. Mr. Gregson's words, as originally printed, are these:—" I am quite ready to admit that the clouded yellows and other foreign eggs, *which are imported in clover and especially in lucerne seeds*, might not hatch for want of a high temperature, and so we should not have them amongst us."—'Intelligencer,' vol. ix. p. 56, *the first line.* I know nothing of Mr. Gregson's paper which was lost and is found again; in fact I now read of such a paper for the first time; but I would ask Mr. Gregson, as a favour to my readers and myself, to state explicitly, and unaccompanied by any personal remarks (which seem to me quite as foreign to the subject as he considers the clouded yellows to our island), whether he has found the eggs of the genus Colias among the seeds of lucerne or clover, and whether he has reared the perfect butterfly therefrom? The great novelty of Mr. Gregson's discovery is the persistency of the egg state: in few butterflies yet observed has the egg state been found to last more than ten or twelve days: by what process, either agricultural or scientific, was the vitality of the egg thus prolonged?—*Edward Newman.*]

Occurrence of Deilephila Galii at Worthing.—Seven specimens of this insect were taken here last autumn: four were bred from larvæ taken on Galium verum (bedstraw), near Shoreham.—*W. Rickman; 2, Chapel Road, Worthing, January* 12, 1861.

Observations on the Families Agaristidæ and Melameridæ.—Mr. Newman's remark (Zool. 7227), that "it is unnatural to divorce Eusemia from Callimorpha and Chelonia," is a truth self-evident at first sight, but which admits of some modification on a closer inspection. It has been acknowledged by Herrich-Schæffer, and also to some extent, unwittingly, by Mr. Walker in the British Museum 'Catalogue,' several insects there placed in the midst of the Chelonidæ belonging truly, I believe, to the Agaristidæ. Like many other groups, I believe the Agaristidæ will be found to be by no means constant in the form of the antennæ, which has hitherto been considered one of their principal characters; and we shall find some of them possessing the Chelonian and some the Noctuidan type of antennæ. Their wing-venation approaches closely to that of the Noctuæ-Trifidæ, and differs in some obvious points from that of the Chelonidæ, to which, however, it is also not very distantly related. In the structure of the head and antennæ Agarista, Alypia, Eusemia, &c., remind us of the Rhopalocera, with which, however, they have little else in common; and in their legs and bodies, as well as the structure of their wings, they are much more nearly allied to the Noctuæ, to which some of the genera, Eudryas for example, form a complete transition. We thus see how impossible it is to class these singular insects satisfactorily, uniting as they do the characters of groups not usually placed in juxtaposition: I believe, however, that the most natural situation in which they can be placed is in close proximity to the Chelonidæ, which they will connect, in a circular arrangement, with the Noctuæ-Trifidæ, and also with the Rhopalocera.* In the British Museum table-cases, two years ago, were, and probably still are, to be found certain Australian insects of the genus Apina, *Walk.*, classed with the Agaristidæ, while in the general collection down stairs these insects stand in the midst of the Chelonidæ: which is right will no doubt be determined when the transformations are known; but as Apina posseses the wing-venation, and sundry other characteristics of the Agaristidæ, I certainly incline to place it with them rather than with the Chelonidæ. In regard to some other insects, such as the curious little North-American Psychomorpha Epimenis, placed in the British Museum Collection among the Nyctemeridæ, we can take surer ground, since not only does it agree in the venation with the Agaristidæ, but the transformations and habits, as given by Abbot in the beautiful collection of drawings of North-American insects in the library of the British Museum, fully confirm the inference deduced from the structure of the perfect insect. The larva closely resembles that of Alypia octomaculata, which no one can doubt belongs truly to the Agaristidæ. Let any one now compare the transformations of Eudryas Unio (Abbot's drawings, tab. 221) with those of the two insects just mentioned, and he can scarcely fail to come to the conclusion that it also belongs to the same family, although it has recently been placed with the Glottulidæ, to which it certainly has considerable affinity. Several other insects among the Chelonidæ in the British Museum—such as Anaphela luctifera; possibly the genus Ovios; and Phægorista, Massaga and Rhosus among the Pericopidæ—will probably eventually be classed with the Agaristidæ. Two new species described by Mr. Walker in the genus Melanchroia appear likewise to belong to this family, and also Josia Noctilux, J. continua and J. separata, which, though they have somewhat similar colouring, entirely depart from the typical structure of the Melameridæ. In the family just mentioned, as arranged at the British Museum, Dioptis hesperoides would also appear to belong to the Agaristidæ; and the entire genus Dioptis seems to want revision, having apparently little in common but the style of colouring. The group Agyrta, including Micilia, Dux, &c., have two pairs of well-developed spurs to the hind tibiæ, with the venation of Ctenucha and the latter genera of the Euchromidæ, with which they should probably be associated. D. vinosa, D. Ergolis, &c., have one pair of minute spurs to the hind tibiæ, with venation approaching the Pericopidæ, and should probably be placed in that family; while D. glaucopis, D. sobria and D. umbrifera possess the structure of Josia monilis, &c., and belong unquestionably to that genus. It is much to be desired that some entomologist visiting South America would seek to verify Stoll's figures of the transformations of Dioptis Micilia and D. cœlestina. It seems scarcely possible to suppose that some error has not taken place with regard to these insects and the two species of Melanchroia which he figures on the same plate, both the larvæ and cocoons resemble so closely those of the Limacodidæ, and the two pupæ seem much too robust for such delicate insects as D. Micilia and D. cœlestina.—*R. F. Logan; Duddingston, Edinburgh, December*, 1860.

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* The Hypsidæ connect, in a similar manner, the Chelonidæ with the Noctuæ-Quadrifidæ.

Occurrence of Lithosia caniola of Hübner in Devonshire and in Ireland.—Mr. King, of Torquay, called upon me a few weeks since with some insects collected in Devonshire and Cornwall, from which I picked out a worn specimen of a Lithosia which appeared distinct from any recorded British species: I believe it to be L. caniola of Hübner, &c.,—a species not uncommon in France, and very likely to occur here. Mr. Barrett took four specimens of the same species in Ireland last August, one of which he kindly sent me to examine. Although in much better condition than the one which I have, it is not fine; but I think there can be little doubt of its being L. caniola, a species likely to be overlooked from its dull colour, which would lead many to consider it one of the common species in faded condition. My friend M. Guenée, who has had all my Lithosiæ for examination, has just sent a paper upon the European species of the genus Lithosia for publication in the 'Transactions' of the Entomological Society of France: as soon as it appears I will send a few remarks upon the British species for insertion in the 'Zoologist.'—*Henry Doubleday; Epping, February* 11, 1861.

Description of the Larva of Hemerophila abruptaria.—Ground-colour pale grayish or greenish drab. Segmental divisions pink. Down the centre of the back a series of purplish blotches, becoming confluent on the anterior and posterior segments, on the latter almost evanescent. Back, belly and anal plate sparingly spotted with black. Immediately preceding the latter a black belt encircling the whole body. In the centre of each ventral segment some spiracle-like spots. Belly greenish. Spiracular lines dusky. The body tapering gradually towards the head. Capital segments flattened; anal segments raised. Feeds on privet and lilac. The larvæ from which the foregoing description was taken were hatched in May and full fed in July. Pupa dusky red, in a tough semi-transparent silken web. — *H. Harpur Crewe; Drayton-Beauchamp Rectory, Tring, February* 6, 1861.

Oviposition of Eupithecia sobrinata.— In July, 1860, I found a pair of bred Eupithecia sobrinata *in cop.* The female in the course of a few days deposited a few yellow eggs on a sprig of juniper: these shortly turned dull leaden blue. On the 26th and 27th of January, 1861, the young larvæ hatched, and began immediately to feed on juniper. As the eggs were kept in a cold room without a fire, I have no doubt that this is the normal time of hatching.—*Id.*

Description of the Larva of Ptilophora plumigera. — Pale whitish green. Centre of back bluish. Subdorsal lines distinct, white. Spiracular lines pale yellow, slender and waved, two on each side, the lower of each pair becoming broader on the anterior and posterior segments. Segmental divisions pale yellow. Belly grass-green. Feeds on maple in shady woods and hedges, generally in chalky districts. Full fed at the end of June and beginning of July. Eggs brown, laid in November. Pupa in a tight earthen cocoon; rather short and thick; rich dark reddish brown. Thorax and wing-cases almost black. Abdominal tip furnished with a bristly bifurcate appendage. —*Id.*

Description of the Larva of Leucania lithargyria.— Ground-colour ochreous or reddish drab. Central dorsal line slender, blackish with a white centre. Subdorsal lines broad, deep black, bordered with white on the lower side. Between the dorsal and subdorsal lines a very slender indistinct dusky line. Spiracles black, in a whitish ring. Between the latter and the subdorsal lines a whitish waved line edged with black. Between the spiracles and legs two conspicuous yellow lines. Belly destitute of spots or markings. The subdorsal lines vary much in intensity of colour. Feeds in April and May, on various species of grass, at night; concealing itself by day, and crawling up the blades as soon as it is dark. Full fed from the middle to end of May. Pupa bright red, in an earthen cocoon.—*Id.; January* 18, 1861.

Description of the Larva of Xylophasia hepatica. — Back dark brown. Central dorsal line whitish, bordered on either side, on each segment, by two black spots. Subdorsal lines slender, indistinct, whitish. Head and post-capital segment dark brown, the former mottled with a paler colour and traversed by two black lines. Sides pinkish drab, marked on each segment with a black spot. Belly pale drab. Back and sides thinly clothed with slender hairs. Hybernates nearly full fed. Begins to feed again on grass, chickweed, &c., in February. Full fed towards the end of March or beginning of April. Pupa dark red, blackish on the thorax and upper part of abdomen; enclosed in a neat cocoon of earth or moss.—*Id.*

Capture of Stenolophus derelictus on Wimbledon Common. — We had the good fortune to capture a single specimen of the above insect in a gravelly spot on Wimbledon Common, on the 19th of March, 1860. We did not recognize it till pointed out to us by our friend Mr. H. S. Gorham; and on subsequently showing it to Dr. Power he immediately identified it as Stenolophus derelictus. As another gentleman as well as Dr. Power and ourselves possess specimens, irrespective of the *type* possessed by the Rev. J. F. Dawson, and as there seems to be some doubt as to their being identical with that type, we think it very advisable that the whole of them should be submitted to some competent authority to have it finally settled.—*A. and M. Solomon; 16, Graham Villas, Pownall Road, Dalston, February* 12, 1861.

Capture of Staphylinus stercorarius amongst Ants.—I have this year (1860) taken Staphylinus stercorarius in the nests of Myrmica lævinodis. This Myrmica is exceedingly abundant near the large ballast heap at South Shields, and forms its nest beneath stones. In these nests, or in their immediate vicinity, the Staphylinus is to be found in August and September. The presence of Coleopterous insects in ants' nests is a curious circumstance, and one which, I think, still requires elucidation. In the present case it is probable — although I could not certainly determine—that they feed upon the inmates of the nest, for of fourteen specimens taken seven are imperfect, but only in a slight degree, wanting a few joints of an antenna, a claw, or a joint or two of a tarsus, seldom a whole foot. Does not this condition rather infer that they suffer these slight mutilations in battling with the ants, which, in self-defence, would be likely enough to seize their enemies by these their only vulnerable parts? That other species so treat intruders I was once an eye-witness. In turning over a stone, beneath which was a nest of Formica fusca, I disturbed a pair of Platysma niger, one of which, to escape me, ran amongst the ants. However, this was "out of the frying-pan into the fire," for the ants rushed upon him from all sides, like little bull-dogs, and he disappeared in the adjoining herbage with a crowd of them dangling at his legs and antennæ.—*Thomas John Bold, in 'Transactions of the Tyneside Naturalists' Field Club,'* iv. 334.

Capture of Ocypus ater on the Banks of the Wansbeck.—I have this season (1860) found Ocypus ater in some abundance on the banks of the Wansbeck. Starting from Sheepwash, I examined the north bank of the river down to the sea, finding amongst other things this conspicuous insect. It began to occur about half a mile above the railway viaduct at North Seaton, and all the way down to Cambois, not occurring, however, on the sea-coast. It lives beneath stones and amongst *rejectamenta*, near high-water mark. The time was near the middle of September. Previous to this only two specimens, to my knowledge, had occurred within our district,— at Tynemouth and Whitley,—and these were taken thirteen years ago.—*Id.*

Discovery of two Species of Ptilium new to the British Fauna, and the Description of a new Species of that Genus. — I am indebted to my friend Mr. Waterhouse for the pleasure of announcing the discovery of two species not previously included in the list of our indigenous Trichopterygidæ. One of them, Ptilium inquilinum, has for some time past been known on the Continent, and is well described and figured in Gillmeister's 'Monograph;' it is therefore unnecessary to do more than simply to record its occurrence in England. Its companion will require a more careful notice: this insect belongs to a species hitherto undescribed, as far as my acquaintance with the family extends, and is conspicuous among its allies, both for the elegance of its shape and for the distinctness of its sculpture. It must be placed in that section of the genus Ptilium which includes P. canaliculatum, P. cæsum, P. inquilinum, &c., all of which exhibit three dorsal channels, or rather lines, on the thorax; but while in every one of the above-named the lines on each side of the central channel are so faint as to be scarcely perceptible except in a favourable light, in this species they are very deeply and strongly marked, and may easily be seen under a simple lens of no very high power; and, moreover, in all the other species the lines in question are oblique, converging towards the central line at one or the other of their extremities; but in this alone they are perfectly parallel to the intermediate line, and confined to the disk of the thorax, not reaching to either margin. The successful exertions of Mr. Waterhouse have now added three most interesting species to the list of the British

Trichopterygidæ, *viz.*, Micrus pulchellus, Ptilium inquilinum, and last of all, and also least, the species now under consideration; and it was my earnest wish to have named this species after its captor, but—I regret to say it—he has expressly forbidden my doing so.

PTILIUM INQUILINUM.

P. inquilinum, *Maërkel in litt.; Erichson, Naturg. de Ins. Deuts.* iii. 26. P. inquilina (Trichopteryx), *Gillm.* P. canaliculatum, *var.*, *Maërk.* P. hœmorrhoidale, *Mots.* P. formicaria, *Mots.* P. exarata, *Allib.*

Three specimens of this insect were taken by Mr. Waterhouse some time ago, but no note made of their capture.

PTILIUM INSIGNE, *nov. sp.*

Long. corp. ¼ lin. Rufo-testaceum, pubescens, subtilius punctatum; capite magno prominulo, lineâ transversali post oculos; pronoto transverso, capite paulo breviori, ad basim validius contracto, lateribus rotundatis, angulis acutis, foveâ magnâ transversali intra marginem posteriorem, et lineâ longitudinali mediâ profunde impressâ, cui utrinque est linea brevis parallela pariter profunde impressa, sed margine et anteriori et posteriori longe remota; scutello modico, lineâ mediâ impressà; elytris ovatis, pronoto latioribus, apicibus acutis; pedibus atque antennis pallidis, tibiis omnibus dilatatis.

Pronoto insigniter cælato, atque tibiis dilatatis ab omnibus cognosci potest.

Length ¼ line. Rufous-testaceous, pubescent, finely punctured throughout; head large and prominent, with a transverse impressed line behind the eyes; thorax transverse, not as long as the head, much contracted towards the base, with the sides much rounded and the angles acute, with a transverse depression near the hinder margin, and a deep and wide longitudinal channel, on each side of which is a distinct and deeply impressed line, not extending to either margin of the thorax, and parallel to the central line; elytra ovate, wider than the thorax, with their apical extremities acute; scutellum moderate, with a deeply impressed central line; legs and antennæ pale testaceous, with all the tibiæ much dilated towards the feet.

This species may be known by the remarkable sculpture of the thorax, and by the dilated tibiæ.

A single specimen was taken some years ago by Mr. Waterhouse, but the exact locality of its capture is unknown.—*A. Matthews; Gumley, Market Harborough, February* 1, 1861.

Muddy Investment of Georyssus pygmæus.—During a recent ramble in Cumberland I met with a small Coleopterous insect, whose economy is very peculiar. This little beetle, the Georyssus pygmæus of Fabricius, is of small size, bluish-black, very strongly and distinctly sculptured. Each individual is completely coated above with a thick cover of muddy sand, under which it totters about in a comical manner. How this earthy cover is attained, and what purposes it can serve, is to me a puzzle. That it is not the result of accident I am pretty certain, for all (and I caught upwards of fifty) were so coated; indeed, it fitted them so closely that I had first to hard rub, and then wash my captures before mounting them. Even after forty-eight hours of heavy rain their loads were still intact. They frequent, on hot sunny days, sloping patches of damp muddy sand, sparely covered with herbage, and, being nearly of the same colour as the ground, are exceedingly difficult to detect; for unless the atoms move, you may have several under your eye, and yet be unable to see one. Does not this difficulty of detection lead to the inference that concealment from its enemies is the end sought to be attained? I think it does. The insect occurred on the banks of the river Irthing, four or five miles west of Gilsland, in the early part of June. This locality being so contiguous to our district will, I hope, be some excuse for crossing its borders in search of the materials for this note.—*Thomas John Bold, in 'Transactions of the Tyneside Naturalists' Field Club,'* iv. 65.

Economy of Apion violaceum.—In the early spring of this year I found at Long Benton a large stem of the common dock which had been perforated in a great number of places by an insect. On splitting it open I found that the perforator had been the larva of a small Coleopterous insect, the Apion violaceum of Linneus, which had apparently fed upon the pith of the plant, burrowing in it for six or eight inches, undergoing transformations within, then gnawing their way outwards, leaving the circular orifices which attracted my attention. I found several individuals that, after undergoing their last change, had been unable to escape,—perhaps killed by the drying of the stem, which had been severed from the root.—*Id.* iv. 66.

Transformations of Cionus Scrophulariæ.—About the 14th of July, 1857, Mr. John Thornhill brought me some stems of Scrophularia aquatica, on the tops of which were clustered great numbers of small gummy-looking capsule-shaped cocoons. These, ten days after, produced an abundance of a very beautiful Coleopterous insect, the Cionus Scrophulariæ of Linneus. The whole of the foliage of the plant had been devoured by the larvæ, all of whom had changed into pupa but one; this was rather shrivelled, somewhat onisciform, and of a yellowish green colour. The cocoons were of the size of small peas, with little protuberances on them, semitransparent, horn-coloured, or rather of a greenish horn-colour, having quite the appearance of small gum capsules, and were clustered on the tops of the plant like inverted bunches of grapes.—*Id.*

Note on the Use of the Forceps of the Earwig.—Has any one noticed the common earwig seize insects with its forceps? I saw one clasp an active beetle, Quedius fuliginosus, round the middle with them, raise it from the ground, and run off with it in spite of its most energetic struggles.—*Id.* iv. 335.

Note on Anisolabia maritima.—In the 'Transactions of the Tyneside Naturalists' Field Club,' vol. iv. p. 56, I stated that this fine earwig was in a fair way of becoming extinct amongst us. This opinion, I am glad to find, is erroneous. In August and September of 1860 Mr. Perkins and myself found it tolerably abundant, and of all sizes, in its old locality—to wit, the large ballast heap on the sea-shore, near South Shields.—*Id.*

Economy of Serropalpus humeralis.—As this insect, formerly a rarity in this country, has lately been taken in considerable abundance, some slight account of its economy cannot be otherwise than acceptable to the readers of the 'Zoologist.' I therefore extract the following paragraph on the subject from the pen of M. E. Perris, published in the 'Annals of the Entomological Society of France' for the year 1857. "Under the influence of the first showers at the end of August or beginning of September there is developed on the old stumps of fir trees, as well as on such of their larger roots as approach the surface of the soil, a large fungus of moderate thickness, of a yellowish brown colour and spongy substance, sometimes sessile, sometimes supported by a stout but short foot-stalk; it is described by Brotero under the name of Polyporus maximus, and properly belongs to the genus Dedalæa. It is to this fungus that the Hallomenus resorts to lay its eggs, and on it the larva feeds, often associated in large numbers. In the substance of this fungus it excavates winding galleries, appearing to prefer the thinner portions, or at least parts of moderate thickness, to the thick and more coriaceous parts about the foot-stalk. It feeds for about six weeks, and then, having attained its full size, it makes a hole through the under side of the fungus and drops to the earth, in which it buries itself and awaits the following summer to undergo its final metamorphosis. Once only have I known the metamorphosis completed in the fungus itself; collected in October and enclosed in a glass vessel, both the larvæ and pupæ were much better preserved thus than when procured from the earth; sometimes I have had the pleasure of collecting more than two hundred specimens in a day." The perfect insects were observed by Mr. Lewis on the fir post and rail fence at the railway-station at Charlton, the larvæ and pupæ in a fungus which grew just at the junction of post and rail.—*Edward Newman.*

Hexagonal Form of Bees' Cells.—There can be no doubt as to the liability of cylinders to become hexagonal under a certain amount of pressure; but why are we to infer that the hexagonal cells of bees have been thus formed? Colonel Newman has proved (Zool. 7369) that the hexagonal form does not result from the pressure of the honey contained in the cells. Where, then, is the pressure to come from? But granting, for the sake of argument, the presence of compressing force where, surely, none can exist, would it make the comb what it is? I think there are several objections which may be urged against this. First, would the extreme fragility of the walls of the cells admit of their receiving, without breaking, the very considerable amount of pressure necessary to make them apply to one another without leaving any interstices? Then, the bases of the cells are, as every one knows, sculptured in the previously-formed partition, before the sides are begun. Now, would not the effect of subsequent pressure be to force each cell at least partially from its base? And if, as would probably be the case, its adhesive power were sufficient to resist this force, would not the sides be distorted, or at least thrown out of their original position? Again, the cylindrical cells must be either larger or smaller in circumference than the hexagonal ones they are required to form; if smaller, they must stretch in compressing, in order to fill up the interstices, which is absurd. On the pressure theory, then, they must be made larger than the required size of the hexagonal cells, to allow for the effects of the compressing force! Is not this attempt, then, to explain away the mathematical accomplishments of the bees something like accounting for a lesser difficulty by creating, as it seems to me, a greater; to say nothing of the apparent insufficiency of compression to produce the solid angle which is contained by the base of each cell. I should be very much obliged to any of the advocates of the pressure theory who would answer these queries satisfactorily.—*B. Carron; Loxton Rectory, near Axbridge, Somerset, February* 18, 1861.

[Of course the pressure hypothesis cannot be entertained unless the article pressing be specified: the only articles in contact are—1st, atmospheric air; 2ndly, honey; 3rdly, larvæ and their cocoons; 4thly, the locomotive bees. When the advocates of the hypothesis explain from which of these sources the pressure arises, and how it acts, we shall have the means of considering the matter, but not until then.—*Edward Newman.*]

Note on Ilyanthus Mitchellii.—Whilst staying at Hastings in the spring of 1860, I had the good fortune to obtain a very fine specimen of this rare anemone. It was found by a boatman, in a hole in a rock about six miles eastward of Hastings. It was certainly a splendid animal, and from its size and bright colour attracted general attention and admiration. In its shape, when open, it very closely resembled a thick stumpy young carrot; when closed it assumed a pear-like shape. The length of the column was 3 inches; diameter at the disk 1 inch, from whence it increased in size for about one-third its length, until its diameter measured 1¾ inch, thence decreasing gradually to a blunt point. At this lower extremity there was generally a very decided indentation, sufficiently large to admit easily a good-size probe; this, however, was not permanent, but was caused by the retractation of the terminal point (just as the top of a finger of a glove might be turned inwards), for it was occasionally reversed and thrust out to a sharper point: no orifice could be detected. The surface of the hide was smooth, the upper portion covered with a mucus thickly coated with sand, which was easily removed without injuring the animal, and did not re-form. The column was carrot-colour; round the top a band, three-eighths of an inch wide, of alternate squares or "turrets," of violet and opaque white, very clearly defined (in this band it very strongly resembled Bunodes coronota). The disk was round, of a translucent brown, with alternate lines of a darker colour and white; round the mouth a row of patches of dark brown; radii distinct; the mouth raised on a cone; the lip, throat and stomach coarsely furrowed, the upper edges of each furrow being of a beautiful deep rich carmine; the stomach was often obtruded over the whole of the disk, and from the bright hue of its colouring presented a most brilliant appearance. The tentacles, forty in number, set in two rows, were somewhat slender, about seven-eighths of an inch long, usually curled; their colour a pellucid white, elegantly marked on the front faces with alternate bands of brown and opaque white: they were seldom retracted. The anemone did not seem very sensitive to the touch, and would stand a considerable amount of irritation without closing; it was generally fully expanded night and day. I afterwards obtained a second specimen, much smaller, which agreed in all points with the larger one, excepting that it was much more sensitive to the touch. Both were placed on sand, in which the smaller one partly burrowed, and raised itself into an upright position for a few days. They lived about three weeks after they came into my possession.—*Edward C. Holwell; 49, Union Grove, Wandsworth Road, January* 26, 1861.

Ophiocoma filiformis, Müller, *on the Durham Coast.*—I have lately procured examples of O. filiformis from the stomachs of haddocks taken off Hartlepool. This is, I believe, the first time that the species has been noticed on the eastern coast of Great Britain. It was first procured by Professor Forbes in the Firth of Clyde, where I have also dredged it; and it was subsequently taken in the Loughs of Connemara. These are the only recorded localities. It inhabits mud. The specimens observed from this coast differ from those I have taken at Rothesay in having the scales at the origin of the rays more nearly parallel, and the outline of the disk less irregular. The anchor-headed spines peculiar to and characteristic of this species are, as far as my observations go, few and far between, though some may always be detected.—*Alfred Merle Norman, in 'Transactions of the Tyneside Naturalists' Field Club,'* iv. 337.

Proceedings of Societies.

ENTOMOLOGICAL SOCIETY.

Anniversary Meeting, January 28, 1861. — J. W. DOUGLAS, Esq., President, in the chair.

Election of Officers, &c.

Messrs. J. W. Dunning, H. G. Knaggs, R. M'Lachlan and G. R. Waterhouse, were elected members of the Council, in the room of Messrs. J. E. Gray, F. Grut, E. Sheppard, and S. J. Wilkinson.

J. W. Douglas, Esq., was re-elected President; S. Stevens, Esq., Treasurer; and Messrs. E. Shepherd and E. W. Janson, Secretaries.

The Report of the Library and Cabinet Committee, made to and adopted by the Council as their Report to the Society, was read and received.

The President delivered an Address on the state and future prospects of the Society and entomological Science, for which the Meeting passed a cordial vote of thanks, and ordered it to be printed in the Society's 'Proceedings.'

A vote of thanks to the retiring Members of the Council was also passed.

February 4, 1861.—J. W. DOUGLAS, Esq., President, in the chair.

Donations.

The following donations were announced, and thanks ordered to be presented to the donors :—'Mémoires de la Société de Physique et d'Histoire Naturelle de Genève,' Tome xv., Deuxième Partie ; presented by the Society. 'Proceedings of the Royal Society,' Vol. xi. No. 42 ; by the Society. 'Journal of the Proceedings of the Linnean Society,' Supplement to Vol. v., Botany ; by the Society. 'Annales de la Société Entomologique Belge,' Tome iv. ; by the Society. 'Sulla Monografia del Bombice del Gelso del Dottor Emilio Cornalia, Relazione di Antonio Villa ;' 'Osservazioni Zoologiche eseguite durante l'ecclisse parziale di sole del 18 Juglio, 1860, communicate dal Socio Antonio Villa ;' 'Straordinaria apparizione di insetti carnivori, di Antonio Villa ;' 'Sui Curculioniti dell' agro Pavese enumerati dal Dottor Prada, Relazione letta nella seduta 18 Decembre, 1859, della Societá Geologica in Milano dal socio fondatore Antonio Villa, Vice-Presidente della Societá Stessa ;' by the Author. 'The Journal of the Society of Arts' for January ; by the Society. 'The Farm and Garden,' Nos. 23 and 24 ; by C. A. Wilson. 'The Zoologist' for February ; by the Editor. 'The Athenæum' for January ; by the Editor. 'The Entomologist's Weekly Intelligencer,' Nos. 223 to 226 inclusive ; by H. T. Stainton, Esq.

Election of a Subscriber.

Joseph Holdsworth, Esq., of 54, Lombard Street, London, was balloted for and elected a Subscriber to the Society.

Exhibitions.

Mr. Janson exhibited a specimen of Philonthus punctiventris, *Kraatz* ('Naturgischichte der Insecten Deutschlands,' ii. 578, 10; 1857), and made the following observations respecting the species :—

"Nearly allied to P. carbonarius, *Gyll.*, from which it is readily distinguished by its slender antennæ, of which the penultimate articulations are but slightly transverse; by the deep and close punctuation of the region of the head behind the eyes, and by the green tint of the elytra. These characters, and the simple anterior tarsi in both sexes, will also serve at once to distinguish it from P. æneus, *Rossi.*

"This species has not hitherto been recorded as British. The specimen now exhibited, the only one which I have seen, was taken, in the autumn of last year, near London, by my friend Mr. Edwin Shepherd."

Mr. Walker exhibited, on the part of Mr. F. Smith, some very small white pupa-cases that were found attached to wasps' nests. These pupæ are very finely striated, and their size is so very minute that they might have been mistaken for eggs if Mr. Smith had not discovered the skin of the larva inside.

Mr. Walker also exhibited, from Mr. Smith, some larvæ taken feeding on the refuse of hornets' nests.

Mr. Westwood considered them to be the larvæ of an Anthomyia, and probably of A. canicularis.

Mr. Stevens exhibited some beautiful Saturniæ and other Lepidoptera, sent from Port Natal by M. Gueinzius; and some extraordinary Tineina from Bootan.

Mr. Bond exhibited a specimen of Cidaria reticularia, *W. V.*, one of three examples taken in the Lake District, in 1856, by Mr. T. H. Allis. The species had not previously been recorded as an inhabitant of Britain.

The Secretary read a paper by T. V. Wollaston, Esq., intituled "On the Atlantic Cossonides."—*E. S.*

DUBLIN NATURAL HISTORY SOCIETY.

January 4, 1861.—WILLIAM ANDREWS, Esq., M.R.I.A., President, in the chair.

The following donations were announced:—'The Annual Address of the President of the Linnean Society;' presented by the Author, Thomas Bell, Esq., F.R.S. 'Suggestions for forming Collections of Birds' Eggs;' by the Author, Alfred Newton, M.A.

Note on the Occurrence of the Snowy Owl in the County Mayo.

The Secretary read the following communication, by Alfred Newton, Esq., M.A.:—"As the snowy owl is stated by the late Mr. William Thompson, in his admirable work on the 'Birds of Ireland' (p. 95), to be 'a very rare winter visitant' in that country, a record of the capture of one which I lately had the pleasure of seeing may not be unacceptable. The bird I speak of was obtained at Ballycory, in the county Mayo, on the estate of Mr. George Clive, Under Secretary of State for the Home Department, and, as far as I could ascertain, somewhat late in the autumn of 1859. When first observed it was sitting on a bog, and was approached without difficulty. The man who found it had no idea what it might be, and shot at it, wounding it slightly, but sufficiently to enable him to catch it alive. It soon recovered from the injury, and lived contentedly in a roomy cage until the beginning of October last, when, at my suggestion, Mr. Clive presented it to the Zoological Society of London, in whose Gardens I saw it a week or two since, enjoying the society of a fellow prisoner of its own species, which was obtained in Unst, the northernmost of the

British islands, and which has been for many years in the Society's possession. I was told by the man who looked after Mr. Clive's bird that it moulted its feathers toward the end of the summer; and it certainly was in beautiful plumage when I saw it a Ballycory the last week in September. I may perhaps be permitted to add that, as far as my own knowledge extends, we are without any certain information respectin the change or changes of plumage in this species; and I believe that any person wh could furnish reliable facts bearing on this subject would be doing good service t Ornithology."

Professor Kinahan remarked that this bird had been recorded in the winter o five various years, since 1812, in Ireland, in one of which, 1835, it had occurred i Antrim, Tyrone, Longford and Mayo. The specimen from Tyrone was in the Society' Museum, having been presented by Edward Waller, Esq., in 1837. It had occurre in Down and Donegal. The last occurrence which was recorded was of a pair whic occurred to Professor Kinahan himself, in December, 1853, in Tipperary.

Mr. J. B. Doyle remarked that he had seen, some time since, a fine specimen of th snowy owl, in the possession of his friend Mr. Rutledge, of Ballinrobe, county May in which neighbourhood it had been procured in the winter of 1839. This specime appears to have been hitherto unrecorded.

Occurrence of Alosa communis near Killaloe.

Professor Kinahan, on the part of the Rev. C. Mayne, of Killaloe, exhibited specimen of the allice shad (*Alosa communis*) which had been captured in the pots the eel fisheries, a mile from Killaloe. The common shad (*A. finta*) is a well-know migrant to some of our southern rivers, and has also occurred in the north and ea The distinctions between the two species are very striking.

The President said the allice shad is distinguished from the twaite shad (*A. fint* by not possessing teeth, the absence of the lateral lines and spots, and its being alt gether a larger and coarser fish. It is allied to the Clupeidæ, or herrings. Althou so little appears to have been recorded of its localities, it is by no means of uncomm occurrence on the west coast. It has been seen in Kenmare River, in Ventry Harbo and Dingle Bay, and is frequently abundant in Limerick Harbour, and Brand Creek, on the coast of Kerry. In the latter place it has been taken of large size, bag-nets set for salmon. This new locality in the Shannon is therefore of additio interest. The allice shad is a marine species, and only leaves the salt water for period, in the early summer, to deposit its spawn in fresh water, where it is son times also met in the autumn months. Where deep-water rivers run into a bay estuary the shad ascends the river some distance from tidal influence, and freque the stillest part of the river to spawn.

Mr. J. B. Doyle presented and exhibited to the Meeting a collection of mar Zoophytes and Polyzoa, obtained on the shores of Dublin Bay. He deferred remarks till the completion of the collection.

The Rev. F. Vize, of Bray, and the Rev. Charles Mayne, of Killaloe, were elec Corresponding Members; and George Dawson, Esq., was elected an Associate Me ber.—*W. A.*

Price Sevenpence, post free,

UGGESTIONS for FORMING COLLECTIONS of BIRDS' EGGS.—These 'Suggestions' are from the pen of Mr. Newton, than whom no one s ever better qualified for the task. The first object is to identify the egg, to be quite re to what bird it belongs. Mr. Newton justly considers that an egg wrongly med is worse than no specimen at all. As soon as the egg is positively identified next object is to authenticate it, by attaching such a mark as can neither be noved nor obliterated. Then follows a full and most minute description of the de of blowing eggs, with figures of all the instruments necessary to be used: it is pressly explained that no hole should be visible, and it is also explained how to oid this: on no account whatever should there be a hole at either end, and there ould be but one hole. The difficulty of removing the contents from eggs that have en sat on and nearly hatched is entirely overcome; and the proper instruments to are not only described but figured, and the requisite information is given where y may be obtained. Finally, we are shown how to strengthen the shell of delicate s before drilling the hole through which their contents are to be emptied.

E. Newman, 9, Devonshire Street, Bishopsgate, London, N.E.

RNITHOLOGY.—BIRDS for SALE.—Two Cabinets of pre-served Birds, carefully mounted, containing nearly sixty Birds. Can be had sepa- ly. If both are taken they can be had at a bargain.

Apply, by letter, to E. B., Post Office, Lowestoft, Suffolk.

To Correspondents.—A number of communications are again postponed.

Occurrence of Lythria purpuraria in Britain.—I have just been over to Burgh- d, and, after a good search through Mr. Wailes's magnificent library, am able to rm you of the capture of a Geometer new to (or rather renewed to) the British list, , Lythria purpuraria, *Hub.*: two specimens, males, of this conspicuous insect were en out of broom, on the 18th of June, "not far from the city of Perth," by Mr. P. Morrison, of Pelton, near here. One is at present in my possession; the other ces the cabinet of a friend of Mr. Morrison's.—*V. R. Perkins; Newcastle-on-Tyne, ruary* 23, 1861.

Occurrence of the Bustard (Otis tarda) *near York.*—I have this day purchased a specimen of the bustard, shot yesterday morning, at Rufforth, near York; weight bs. 12 oz.—*David Graham; Market Street, York, February* 23, 1861.

Emus Breeding at Brockham.—A pair of Emus imported by Captain Neatby, last on, from Sydney, and deposited with me, have begun to lay. Four eggs, at inter- averaging four to five days, have been laid thus far this month. They are most tiful productions, almost perfectly oval in shape, of a rich dark green or olive ur, thickly speckled, and extraordinarily heavy, like masses of polished malachite. last egg laid (the largest) measures slightly over 14 inches round one way, nches the other, and weighs 1 lb. 4½ oz.—*W. Bennett; Brockham Lodge, Beck- h, February* 25, 1861.

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E. NEWMAN, PRINTER, DEVONSHIRE STREET, BISHOPSGATE, N.E.